```
/***************************************
*Malaria early morbidity and mortality
* Tables do file - last modified 5 October 2015
*
***************************************/



capture log close
version 13.1
set linesize 100
set more off
cd "C:\Users\Carl\Google Drive\MPH\Projects\Malaria project\Data\excel"
loc today = c(current_date)
log using "malariaproject_log_`today'.txt", append text

*prepare folder for results
local T = c(current_time)
local T = subinstr("`T'",":","_",.)
mkdir "table `today' `T'"
cd "table `today' `T'"

***Table 1a: Characteristics of Patients by Species(export csv for placement in maltab.xlsxs)***
    loc dem constant AGR4 sexPreg Ethnic tgn whiteCat HbAdmGr5 pltCat MalNut Malaria_Last63Gr
     MalPres_cat Year Era
/*explanatory variables*/
    tabout `dem' Species using tables\workfiles\maltable1_Species.csv, replace  c(freq row)
    f(1)  ptotal(none) style(csv)

***Table 1b: Characteristics of Patients by early outcomestatus (14 days or less) following a
malaria episode (export csv for placement in maltab.xlsxs)***
    loc group AdmNext14 DiedNext14 /*group variables*/
    loc dem constant Species AGR4 sexPreg Ethnic tgn whiteCat HbAdmGr5 pltCat MalNut
    Malaria_Last63Gr MalPres_cat Year Era
/*explanatory variables*/
    foreach var of varlist `group' {
    tabout `dem' `var' using tables\workfiles\maltable1_`var'.csv, replace  c(freq row) f(1)
      ptotal(none) style(csv) npos(lab)
    }

    foreach var of varlist `dem' {
    tab `var' AdmNext14, row chi
    }

***Table 2Adm: Characteristics of Patients with early re-admission (14 days or less) following a
malaria episode (export csv for placement in maltab.xlsxs)***
    *AdmNext14==0 (not re-admitted wthin 14 days)*
    loc cont Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    tokenize `cont'
    local counter = 0
    local filemethod = "replace"
    local heading = "h1(nil) h2(nil) h3(|Count | Mean | SD | Median |Min | Max )"
    foreach v of varlist `cont' {
    if `counter' > 0 {
    local filemethod = "append"
    local heading = "h1(nil) h2(nil) h3(nil)"
    }
```

```
    label define dummy 1 "`1'", modify
    label val dummy dummy
    tabout dummy if AdmNext14==0 using tables\workfiles\table2adm0.csv, ///
    `filemethod' c(count `v' mean `v' sd `v' median `v' min `v' max `v' ) ///
    f(0 1c 1c 1c 1c 1c) sum `heading' ///
    lines(none) ptotal(none) style(csv)
    mac shift
    local counter = `counter' + 1
    }

    *AdmNext14==1 (re-admitted wthin 14 days)*
    loc cont Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    tokenize `cont'
    local counter = 0
    local filemethod = "replace"
    local heading = "h1(nil) h2(nil) h3(|Count | Mean | SD | Median |Min | Max )"
    foreach v of varlist `cont' {
    if `counter' > 0 {
    local filemethod = "append"
    local heading = "h1(nil) h2(nil) h3(nil)"
    }
    label define dummy 1 "`1'", modify
    label val dummy dummy
    tabout dummy if AdmNext14==1 using tables\workfiles\table2adm1.csv, ///
    `filemethod' c(count `v' mean `v' sd `v' median `v' min `v' max `v' ) ///
    f(0 1c 1c 1c 1c 1c) sum `heading' ///
    lines(none) ptotal(none) style(csv)
    mac shift
    local counter = `counter' + 1
    }

    *ttest vars by AdmNext14*
    loc cont Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    loc groupv AdmNext14
    foreach v of varlist `cont' {
    qui ttest `v', by(`groupv')
    di as text "`v' Mean difference by `groupv':"
    di %9.1f r(mu_1)-r(mu_2) as text " (95% CI" %9.1f (r(mu_1)-r(mu_2)-(1.96*r(se))) as
    text"," as result %9.1f (r(mu_1)-r(mu_2)+(1.96*r(se))) as text "; {it:P-value}:" %9.3f r(p)
    as text")"
    }

    *Mann-Whitney U Test
        loc cont PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin log10pltmin
        wbcmin log2wbcmin  log10wbcmin
    loc groupv AdmNext14
    foreach v of varlist `cont' {
    ranksum `v', by(`groupv')
    }
****Ask Julie for help with this - which to use with?

***Table 1 Died: Characteristics of Patients by early death status (14 days or less) following a
malaria episode (export csv for placement in maltab.xlsxs)***
    loc dem constant Species AGR4 Sex pregWom Ethnic MalNut Malaria_Last63Gr  HbAdmGr5
    sevThrom q5_wbcmin q5_pltmin Source Year Era TreatGr_First q5_PQmgkg_Sum
```

```
    tabout `dem' DiedNext14 using tables\workfiles\maltable1_Died.csv, replace  c(freq row)
    f(1)  ptotal(none) style(csv) npos(lab)

    foreach var of varlist `dem' {
    tab `var' DiedNext14, row chi
    }
```

Table 2 Died: Characteristics of Patients with early death (14 days or less) following a malaria episode (export csv for placement in maltab.xlsxs)

DiedNext14==0 (did not die wthin 14 days)

```
    loc cont Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    tokenize `cont'
    local counter = 0
    local filemethod = "replace"
    local heading = "h1(nil) h2(nil) h3(|Count | Mean | SD | Median |Min | Max )"
    foreach v of varlist `cont' {
    if `counter' > 0 {
    local filemethod = "append"
    local heading = "h1(nil) h2(nil) h3(nil)"
    }
    label define dummy 1 "`1'", modify
    label val dummy dummy
    tabout dummy if DiedNext14==0 using tables\workfiles\table2d0.csv, ///
    `filemethod' c(count `v' mean `v' sd `v' median `v' min `v' max `v' ) ///
    f(0 1c 1c 1c 1c 1c) sum `heading' ///
    lines(none) ptotal(none) style(csv)
    mac shift
    local counter = `counter' + 1
    }
```

DiedNext14==1 (died wthin 14 days)

```
    loc cont Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    tokenize `cont'
    local counter = 0
    local filemethod = "replace"
    local heading = "h1(nil) h2(nil) h3(|Count | Mean | SD | Median |Min | Max )"
    foreach v of varlist `cont' {
    if `counter' > 0 {
    local filemethod = "append"
    local heading = "h1(nil) h2(nil) h3(nil)"
    }
    label define dummy 1 "`1'", modify
    label val dummy dummy
    tabout dummy if DiedNext14==1 using tables\workfiles\table2d1.csv, ///
    `filemethod' c(count `v' mean `v' sd `v' median `v' min `v' max `v' ) ///
    f(0 1c 1c 1c 1c 1c) sum `heading' ///
    lines(none) ptotal(none) style(csv)
    mac shift
    local counter = `counter' + 1
    }
```

ttest vars by DiedNext14

```
    loc cont  Age hbmin_Min PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin
    log10pltmin wbcmin log2wbcmin  log10wbcmin
    loc groupv DiedNext14
```

```
    foreach v of varlist `cont' {
    qui ttest `v', by(`groupv')
    di as text "`v' Mean difference by `groupv':"
    di %9.1f r(mu_1)-r(mu_2) as text " (95% CI" %9.1f (r(mu_1)-r(mu_2)-(1.96*r(se))) as
    text"," as result %9.1f (r(mu_1)-r(mu_2)+(1.96*r(se))) as text "; {it:P-value}:" %9.3f r(p)
    as text")"
    }


    *Mann-Whitney U Test
        loc cont PQmgkg_Sum log2PQmgkg_Sum log10PQmgkg_Sum pltmin log2pltmin log10pltmin
        wbcmin log2wbcmin  log10wbcmin
    loc groupv AdmNext14
    foreach v of varlist `cont' {
    ranksum `v', by(`groupv')
    }

***Graph histogram density plots for continuous variables (or is kernel density better?  pretty
similar)
    /*(hbmin_Min is normally distributed; PQmgkg_Sum has an odd distribution suggestive of
    two distinct treatment groupings - this is especially noticeable if restricted to
    AGR4==4, and has some relationship with white blood cell count (eg. second peak is more
    prominent in wbcmin>8000))*/
    loc cont Age Age_log10 Age_log2 predwt hbmin_Min pltmin log10pltmin log2pltmin wbcmin
    log10wbcmin log2wbcmin
    foreach var of varlist `cont' {
    histogram `var', normal dens name("`var'_histo_density",replace) scheme(tufte)
    }

/*************************************
*
*EXTRA GRAPHS
*
*************************************/

*Graph of initial species by year - note both absolute increase in Pv and mixed diagnoses across
study period, and relative to Pf
use "C:\data\malaria\MalEps_v1.9.3_r9aug2015.dta", clear
cd\data\malaria
tempfile original
save `original'

/*Generate indicators of variables for plotting frequencies */
g pres_pf = SpeciesX if SpeciesX==1
g pres_pv = SpeciesX if SpeciesX==2
g pres_all = constant

g adm_pf  = SpeciesX  if AdmNext14==1 & SpeciesX==1
g adm_pv  = SpeciesX  if AdmNext14==1 & SpeciesX==2
g adm_all = constant

g died_pf = SpeciesX  if DiedNext14==1 &SpeciesX==1
g died_pv = SpeciesX  if DiedNext14==1 &SpeciesX==2
g died_all = constant

/*Collapse for frequencies of each variable */
collapse (count)    pres_pf    ///
```

```
                    pres_pv    ///
                    pres_all   ///
                    adm_pf     ///
                    adm_pv     ///
                    adm_all    ///
                    died_pf    ///
                    died_pv     ///
                    died_all   ///
                    , by(YearCat)

/*Colours from colorbrewer2.org */
loc farb1 = "27 158 119"
loc farb2 = "217 95 2"
loc farb3 = "102 194 165"
loc farb4 = "252 141 98"
loc farb5 = "179 226 205"
loc farb6 = "253 205 172"

tw      line  pres_pf Year, sort lc("`farb5'")                 || ///
        line pres_pv Year, lc("`farb6'")                       || ///
        line  adm_pf  Year, sort  lc("`farb3'") lpattern(dash) || ///
        line adm_pv Year, lc("`farb4'") lpattern(dash)         || ///
        line died_pf  Year, sort  lc("`farb1'") lpattern(.)    || ///
        line died_pv Year, lc("`farb2'") lpattern(.)              ///
    legend(order(1 "{it:P.falciparum}"  2 "{it: P.vivax}{bf:  malaria episodes}"  ///
                 3 "{it:P.falciparum}"  4 "{it: P.vivax}{bf:   early admissions}" ///
                 5 "{it:P.falciparum}"  6 "{it: P.vivax}{bf:   early deaths}")    ///
                    col(2) pos(6) )                                               ///
    xlab(2004(1)2013, labsize(small)) xsca(nofextend)                               ///
    xtitle("Year", margin(medsmall))                                                ///
    ytitle(, margin(medsmall))  ylab(,angle(h) nogrid)                              ///
    graphr(color(white) lcolor(white)) plotr(color(white) )                         ///
    title("Yearly frequency of malaria episodes, early admissions and early deaths", ///
    size(medsmall) placement(west) margin(-8 0 0 -3 ) justification(left)) xsize(12)
    ysize(10)
```