

```

/*****

```

```

*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 = substr("T", ":", "_", .)
mkdir "table `today' `T'"
cd "table `today' `T'"

```

Table 1a: Characteristics of Patients by Species (export csv for placement in maltab.xlsx)

```

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 outcome status (14 days or less) following a malaria episode (export csv for placement in maltab.xlsx)

```

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.xlsx)

AdmNext14==0 (not re-admitted within 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 lc lc lc lc lc) sum `heading' ///
    lines(none) ptotal(none) style(csv)
    mac shift
    local counter = `counter' + 1
}

```

AdmNext14==1 (re-admitted within 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 lc lc lc lc lc) 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
  about `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 within 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
  about 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 lc lc lc lc lc) sum `heading' ///
  lines(none) ptotal(none) style(csv)
  mac shift
  local counter = `counter' + 1
}

```

DiedNext14==1 (died within 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
  about 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 lc lc lc lc lc) 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)
}
```

```
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```
*
*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)
```