

```

/*****
*
*Incorporation of time-varying coefficients into models 2, 3 and 4
*
*****/
*Set up log and working directory
capture log close
version 13.1
set linesize 100
set more off

cd "C:\data\malaria\results"
loc today = c(current_date)
log using "malariaproject_log_`today'.txt", append text

*cox model ties handling
loc ties efron

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

****note '3' and '7' refer to days following presentation (ie. _t = 4 and _t = 8, respectively)

*Model 2
/*load data*/
use "C:\data\malaria\MalEps_v1.9.3_r5oct2015.dta", clear
/*create indicator variables*/
xi i.SpeciesX i.EthnicX i.AGR4_4b i.sexPreg i.oral_v_dhp
stset AdmFU15, fail(AdmNext14) id(obsno)
/*split time*/
stsplot new, at(4 8) /* Splitting time (see note aboe about t4 and t8 above) */

loc varlist _ISpeciesX_2    /// /*List of variables to split */
             _ISpeciesX_4    ///
             _ISpeciesX_5    ///
             _IEthnicX_2     ///
             _IEthnicX_3     ///
             _IAGR4_4b_1     ///
             _IAGR4_4b_2     ///
             _IAGR4_4b_3     ///
             _IsexPreg_2     ///
             _IsexPreg_3     ///
             _Ioral_v_dh_1

/*generate interaction term*/
foreach i of varlist `varlist' {
gen tv3`i' = `i' * (new==4)
gen tv7`i' = `i' * (new==8)
}

/*List of variables for model including interactions with time */
loc varlist _ISpeciesX_2    tv3_ISpeciesX_2    tv7_ISpeciesX_2    ///
             _ISpeciesX_4    ///

```

```

_ISpeciesX_5          ///
_IEthnicX_2           ///
_IEthnicX_3      tv3_IEthnicX_3      tv7_IEthnicX_3      ///
_IAGR4_4b_1           ///
_IAGR4_4b_2      tv3_IAGR4_4b_2      tv7_IAGR4_4b_2      ///
_IAGR4_4b_3           ///
_IsexPreg_2           ///
_IsexPreg_3      tv3_IsexPreg_3      tv7_IsexPreg_3      ///
_Ioral_v_dh_1

```

```
stcox `varlist' if ip==0, efron allbaselevels vsquish cluster(hrn) cformat(%6.2f)
```

```
/*save and store estimates and scaled Schoenfeld residuals for later access*/
```

```
estimates
```

```
estimates store M2aTV37_24oct2015
```

```
estimates save M2aTV37_24oct2015
```

```
predict sch_M2aTV37*, sca
```

```
save MalEps_v1.9.3_M2a_TV37.dta
```

```
linktest, cluster(hrn) efron
```

```
estat phtest, d
```

```
lincom _b[_ISpeciesX_2]+_b[tv3_ISpeciesX_2]+ _b[tv7_ISpeciesX_2], eform
```

```
lincom _b[_ISpeciesX_2]+_b[tv3_ISpeciesX_2], eform
```

### \*Model 3

```
set more off
```

```
*load data
```

```
use "C:\data\malaria\MalEps_v1.9.3_r5oct2015.dta", clear
```

```
/*create indicator variables*/
```

```
xi i.SpeciesX i.EthnicX i.AGR4_4b i.sexPreg i.oral_v_dhp
```

```
stset DiedFU15, fail(DiedNext14) id(obsno)
```

```
/*split time*/
```

```
stsplot new, at(4 8)
```

```

loc varlist _ISpeciesX_2      ///
             _ISpeciesX_4      ///
             _ISpeciesX_5      ///
             _IEthnicX_2       ///
             _IEthnicX_3       ///
             _IAGR4_4b_1       ///
             _IAGR4_4b_2       ///
             _IAGR4_4b_3       ///
             _IsexPreg_2       ///
             _IsexPreg_3       ///
             _Ioral_v_dh_1

```

```
foreach i of varlist `varlist' {
```

```
gen tv3`i' = `i' * (new==4)
```

```
gen tv7`i' = `i' * (new==8)
```

```
}
```

```
/*List of variables for model including interactions with time */
```

```
loc varlist _ISpeciesX_2      ///
```

```

_ISpeciesX_4          ///
_ISpeciesX_5          tv3_ISpeciesX_5          tv7_ISpeciesX_5          ///
_IEthnicX_2           ///
_IEthnicX_3           ///
_IAGR4_4b_1           ///
_IAGR4_4b_2           tv3_IAGR4_4b_2           tv7_IAGR4_4b_2          ///
_IAGR4_4b_3           ///
_IsexPreg_2           ///
_IsexPreg_3           ///
_Ioral_v_dh_1

```

```
/*run model*/
```

```
stcox `varlist' if ip==0 , efron allbaselevels vsquish cluster(hrn) cformat(%6.2f) nolog
```

```
/*save and store estimates and scaled Schoenfeld residuals for later access*/
```

```
estimates
```

```
estimates store M3bTV37_24oct2015
```

```
estimates save M3bTV37_24oct2015
```

```
predict sch_M3bTV37*, sca
```

```
save MalEps_v1.9.3_M3b_TV37.dta
```

```
linktest, cluster(hrn) efron
```

```
estat phtest, d
```

```
*Model 4
```

```
/*load data*/
```

```
use "C:\data\malaria\MalEps_v1.9.3_r5oct2015.dta", clear
```

```
/*create indicator variables*/
```

```
xi i.SpeciesX i.EthnicX i.AGR4_4b i.sexPreg i.ivArt
```

```
/*declare survival time*/
```

```
stset DiedFU15, fail(DiedNext14) id(obsno)
```

```
/*split time*/
```

```
stsplot new, at(8)
```

```
/*list of variables to create potential splits for*/
```

```

loc varlist _ISpeciesX_2    ///
             _ISpeciesX_4    ///
             _ISpeciesX_5    ///
             _IEthnicX_2     ///
             _IEthnicX_3     ///
             _IAGR4_4b_1     ///
             _IAGR4_4b_2     ///
             _IAGR4_4b_3     ///
             _IsexPreg_2     ///
             _IsexPreg_3     ///
             _IivArt_1

```

```

foreach i of varlist `varlist' {
gen tv7`i' = `i' * (new==8)
}

```

```
/*list of variables including TVCs*/
```

```

loc varlist _ISpeciesX_2    ///
             _ISpeciesX_4    ///
             _ISpeciesX_5    ///
             _IEthnicX_2     ///
             _IEthnicX_3     ///

```

```

_IAGR4_4b_1      tv7_IAGR4_4b_1      ///
_IAGR4_4b_2      ///
_IAGR4_4b_3      tv7_IAGR4_4b_3      ///
_IsexPreg_2      ///
_IsexPreg_3      ///
_IivArt_1

```

### \*run Cox model with TVCs

```
stcox `varlist' if ip==1 , efron allbaselevels vsquish cluster(hrn) cformat(%6.2f) nolog
```

### \*store results for later access

```
estimates
```

```
estimates store M4aTV37_24oct2015
```

```
estimates save M4aTV37_24oct2015
```

```
predict sch_M4aTV37*, sca
```

```
save MalEps_v1.9.3_M4a_TV37.dta
```

```
linktest, cluster(hrn) efron
```

```
estat phtest, d
```

### \*\*\*\*Coefficient plots

#### \*Model 2

```
cd "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\"
```

```
use "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\MalEps_v1.9.3_M2a_TV37.dta", clear
```

```
estimates use M2aTV37_24oct2015.ster
```

```
estimates esample: ///
```

```
_ISpeciesX_2 ///
```

```
tv3_ISpeciesX_2 ///
```

```
tv7_ISpeciesX_2 ///
```

```
_ISpeciesX_4 ///
```

```
_ISpeciesX_5 ///
```

```
_IEthnicX_2 ///
```

```
_IEthnicX_3 ///
```

```
tv3_IEthnicX_3 ///
```

```
tv7_IEthnicX_3 ///
```

```
_IAGR4_4b_1 ///
```

```
_IAGR4_4b_2 ///
```

```
tv3_IAGR4_4b_2 ///
```

```
tv7_IAGR4_4b_2 ///
```

```
_IAGR4_4b_3 ///
```

```
tv7_IAGR4_4b_3 ///
```

```
_IsexPreg_2 ///
```

```
tv7_IsexPreg_2 ///
```

```
_IsexPreg_3 ///
```

```
tv3_IsexPreg_3 ///
```

```
tv7_IsexPreg_3 ///
```

```
_Ioral_v_dh_1
```

```
estimates
```

```
label variable _ISpeciesX_2 "{it:P.vivax}"
```

```

label variable _ISpeciesX_4 "{it:P.malariae}"
label variable _ISpeciesX_5 "mixed"
label variable _IEthnicX_2 "Lowland"
label variable _IEthnicX_3 "non-Papuan"
label variable _IAGR4_4b_1 "0 to {&lt;} 1"
label variable _IAGR4_4b_2 "1 to {&lt;} 5 "
label variable _IAGR4_4b_3 "5 to {&lt;} 15"
label variable _IsexPreg_2 "female (pregnant)"
label variable _IsexPreg_3 "male"
label variable _Ioral_v_dh_1 "DHP"

label variable tv3_ISpeciesX_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_ISpeciesX_4 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_ISpeciesX_5 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IEthnicX_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IEthnicX_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_1 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IsexPreg_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IsexPreg_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_Ioral_v_dh_1 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"

label variable tv7_ISpeciesX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_4 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_5 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_Ioral_v_dh_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"

```

```

coefplot      (M2a_24oct2015,      mc("241 163 64")  ciopts(lc("241 163 64")))
              ///
              label(multivariable model 2) )
              ///
              (M2aTV37_24oct2015, mc("153 142 195") ciopts(lc("153 142 195")))
              ///
              label("model 2 with time interaction")
              ///
              , eform baselevels xline(1, lc("27 158 119"))
              ///
order(      _ISpeciesX_2 tv3_ISpeciesX_2 tv7_ISpeciesX_2 _ISpeciesX_4 _ISpeciesX_5
            ///
            . _IEthnicX_2 _IEthnicX_3 tv3_IEthnicX_3 tv7_IEthnicX_3
            ///
            . _IAGR4_4b_1 _IAGR4_4b_2 tv3_IAGR4_4b_2 tv7_IAGR4_4b_2 _IAGR4_4b_3
            tv7_IAGR4_4b_3 ///
            . _IsexPreg_2 tv7_IsexPreg_2 _IsexPreg_3 tv3_IsexPreg_3 tv7_IsexPreg_3
            ///
            . _Ioral_v_dh_1)
            ///

headings(_ISpeciesX_2 = "{it:P.falciparum}" (reference) "

```

```

///
_IEthnicX_2 = "Highland (reference)"
///
_IAGR4_4b_1 = " {&ge} 15 (reference)"
///
_IsexPreg_2 = "female, pregnant (reference)"
///
_Ioral_v_dh_1 = "oral quinine (reference)"
///
coeflabels(,labsize(small)) legend(cols(1))
///
graphhr(color(white) lc(white) margin(2 2 0 0)) plotr(color(white) lc(white))
///
grid(within glwidth(thin)) ysize(20) xsize(15)
///
xtitle("Hazard Ratio", margin(medsmall)) xlab(,labsize(small))
///
xmlab(1 "reference",add tlc(27 158 119) labcolor("27 158 119"))
///
subtitle("Early admission in outpatients on oral treatment",
///
size(medium) margin(-30 0 2 0))
///
note("Note: {it:t} refers to analysis time in days since presentation with a malaria
episode; " ///
" i.e. time is split at day 3 and/or day 7 following presentation, where
specified." ///
, margin(-37 0 0 2) size(vsmall) )

```

```
graph export "C:\data\malaria\figures\Model2_compare24oct2015.emf", as(emf) replace
```

## **\*\*Graph piece-wise regression of model 2 incorporating split at days 3 and 7 following the day of presentation**

### **estimates**

```

matrix M2tv = r(table)'
di "Day 0 to Day 3: HR" %9.2f M2tv[1,1] %9.2f M2tv[1,5] %9.2f M2tv[1,6]
di "Day 3 to Day 7: HR" %9.2f M2tv[2,1] %9.2f M2tv[2,5] %9.2f M2tv[2,6]
di "Day 7 to Day 14: HR" %9.2f M2tv[3,1] %9.2f M2tv[3,5] %9.2f M2tv[3,6]
local hr1 = M2tv[1,1]
local hr2 = M2tv[2,1]
local hr3 = M2tv[3,1]
local hr1_lci = M2tv[1,5]
local hr1_uci = M2tv[1,6]
local hr2_lci = M2tv[2,5]
local hr2_uci = M2tv[2,6]
local hr3_lci = M2tv[3,5]
local hr3_uci = M2tv[3,6]
di "Day 0 to Day 3: " %9.2f `hr1' %9.2f `hr1_lci' %9.2f `hr1_uci'
di "Day 3 to Day 7: " %9.2f `hr2' %9.2f `hr2_lci' %9.2f `hr2_uci'
di "Day 7 to Day 14: " %9.2f `hr3' %9.2f `hr3_lci' %9.2f `hr3_uci'
twoway function y = `hr1', range(2 4) lwidth(thick) lpattern(solid) lc("217 95 2")
|| ///
function y = `hr2', range(4 8) lwidth(thick) lpattern(solid) lc("217 95 2")
|| ///
function y = `hr3', range(8 15) lwidth(thick) lpattern(solid) lc("217 95 2")
|| ///
function y = `hr1_lci', range(2 4) lpattern(dash) lc("253 205 172")
|| ///

```

```

function y = `hr2_lci`, range(4 8) lpattern(dash) lc("253 205 172")
|| ///
function y = `hr3_lci`, range(8 15) lpattern(dash) lc("253 205 172")
|| ///
function y = `hr1_uci`, range(2 4) lpattern(dash) lc("253 205 172")
|| ///
function y = `hr2_uci`, range(4 8) lpattern(dash) lc("253 205 172")
|| ///
function y = `hr3_uci`, range(8 15) lpattern(dash) lc("253 205 172")
|| ///
function y = 1, lwidth(thick) lpattern(solid) range(2 15) lc("27 158 119")
|| ///
function y = 0.92, lpattern(solid) range(2 15) lc("247 247 247") lwidth(thick)
///
legend(order(10 "{it:P.falciparum}" (reference)"
///
11 "{it:P.vivax}" multivariable model 2, HR 0.92" ///
1 "{it:P.vivax}" model 2 with time interaction, HR (95% CI)"
///
pos(6) col(1))
///

xtitle("Time (days) since presentation with malaria", margin(medsmall))
///
yttitle("Hazard Ratio", margin(medsmall))
///
ylab(`hr1' `hr2' `hr3' 0.65 1 2, nogrid angle(h) labsize(small) format(%9.2f))
///
xlab(2 "1" 4 "3" 8 "7" 15 "14", labsize(small)) xmtick(1(1)15)
///
xscale(nofextend) yscale(log fextend)
graphr(color(white) lc(white)) plotr(color(white) lc(white))
///

```

### \*Model 3

```
cd "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\"
```

```
use "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\MalEps_v1.9.3_M3b_TV37.dta", clear
```

```
estimates use M3bTV37_24oct2015.ster
```

```
estimates esample: ///
```

```
_ISpeciesX_2 ///
```

```
_ISpeciesX_4 ///
```

```
_ISpeciesX_5 ///
```

```
tv3_ISpeciesX_5 ///
```

```
tv7_ISpeciesX_5 ///
```

```
_IEthnicX_2 ///
```

```
_IEthnicX_3 ///
```

```
_IAGR4_4b_1 ///
```

```
_IAGR4_4b_2 ///
```

```
tv3_IAGR4_4b_2 ///
```

```
tv7_IAGR4_4b_2 ///
```

```
_IAGR4_4b_3 ///
```

```
_IsexPreg_2 ///
```

```
_IsexPreg_3 ///
```

```
_Ioral_v_dh_1
```

```
estimates
```

```

label variable _ISpeciesX_2 "{it:P.vivax}"
label variable _ISpeciesX_4 "{it:P.malariae}"
label variable _ISpeciesX_5 "mixed"
label variable _IEthnicX_2 "Lowland"
label variable _IEthnicX_3 "non-Papuan"
label variable _IAGR4_4b_1 "0 to {&lt;} 1"
label variable _IAGR4_4b_2 "1 to {&lt;} 5 "
label variable _IAGR4_4b_3 "5 to {&lt;} 15"
label variable _IsexPreg_2 "female (pregnant)"
label variable _IsexPreg_3 "male"
label variable _Ioral_v_dh_1 "DHP"

label variable tv3_ISpeciesX_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_ISpeciesX_4 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_ISpeciesX_5 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IEthnicX_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IEthnicX_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_1 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IAGR4_4b_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IsexPreg_2 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_IsexPreg_3 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"
label variable tv3_Ioral_v_dh_1 "{it:t}{sub:3}{&rarr}{it:t}{sub:7}"

label variable tv7_ISpeciesX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_4 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_5 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_Ioral_v_dh_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"

```

```

coefplot      (M3b_24oct2015,      mc("241 163 64")  ciopts(lc("241 163 64"))
              ///
              label(multivariable model 3) )
              ///
              (M3bTV37_24oct2015, mc("153 142 195") ciopts(lc("153 142 195"))
              ///
              label("model 3 with time interaction"))
              ///
              , eform baselevels xline(1, lc("27 158 119"))
              ///
order(      _ISpeciesX_2 _ISpeciesX_4 _ISpeciesX_5 tv3_ISpeciesX_5 tv7_ISpeciesX_5
            ///
            . _IEthnicX_2 _IEthnicX_3
            ///
            . _IAGR4_4b_1 _IAGR4_4b_2 tv3_IAGR4_4b_2 tv7_IAGR4_4b_2 _IAGR4_4b_3
            ///
            . _IsexPreg_2 _IsexPreg_3
            ///

```



```

        . _Ioral_v_dh_1)
                                                                    ///
headings(_ISpeciesX_2 = "{it:P.falciparum}" (reference)"
                                                                    ///
        _IEthnicX_2 = "Highland (reference)"
                                                                    ///
        _IAGR4_4b_1 = " {&ge} 15 (reference)"
                                                                    ///
        _IsexPreg_2 = "female, pregnant (reference)"
                                                                    ///
        _Ioral_v_dh_1 = "oral quinine (reference)"
                                                                    ///
        coeflabels(,labsize(small)) legend(cols(1))
                                                                    ///
        graphr(color(white) lc(white) margin(2 2 0 0)) plotr(color(white) lc(white))
                                                                    ///
        grid(within glwidth(thin)) ysize(20) xsize(15)
                                                                    ///
        xtitle("Hazard Ratio", margin(medsmall))      xlab(,labsize(small))
                                                                    ///
        xlabel(1 "reference",add tlc("27 158 119") tlength(*8) labcolor("27 158 119")
        tlwidth(medium)) ///
        subtitle("Early death in outpatients on oral treatment",
                                                                    ///
        size(medium) margin(-30 0 2 0))
                                                                    ///
note("Note: {it:t} refers to analysis time in days since presentation with a malaria
episode; " ///
"          i.e. time is split at day 3 and/or day 7 following presentation, where
specified." ///
, margin(-37 0 0 2) size(vsmall) )

graph export "C:\data\malaria\figures\Model3_compare24oct2015.emf", as(emf) replace

```

#### \*Model 4 comparison of with and without time split

```

cd "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\"
use "C:\data\malaria\results\efron 24 Oct 2015 10_47_59\MalEps_v1.9.3_M4a_TV37.dta", clear
estimates use M4aTV37_24oct2015.ster

```

```
estimates esample: ///
```

```

_ISpeciesX_2 ///
_ISpeciesX_4 ///
_ISpeciesX_5 ///
_IEthnicX_2 ///
_IEthnicX_3 ///
_IAGR4_4b_1 ///
tv7_IAGR4_4b_1 ///
_IAGR4_4b_2 ///
_IAGR4_4b_3 ///
tv7_IAGR4_4b_3 ///
_IsexPreg_2 ///
_IsexPreg_3 ///
_IivArt_1

```

```
estimates
```

```

label variable _ISpeciesX_2 "{it:P.vivax}"
label variable _ISpeciesX_4 "{it:P.malariae}"

```

```

label variable _ISpeciesX_5 "mixed"
label variable _IEthnicX_2 "Lowland"
label variable _IEthnicX_3 "non-Papuan"
label variable _IAGR4_4b_1 "0 to {&lt;} 1"
label variable _IAGR4_4b_2 "1 to {&lt;} 5 "
label variable _IAGR4_4b_3 "5 to {&lt;} 15"
label variable _IsexPreg_2 "female (pregnant)"
label variable _IsexPreg_3 "male"
* label variable _Ioral_v_dh_1 "DHP"
label variable _IivArt_1 "artesunate"

label variable tv7_ISpeciesX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_4 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_ISpeciesX_5 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IEthnicX_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IAGR4_4b_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_2 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IsexPreg_3 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
* label variable tv7_Ioral_v_dh_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"
label variable tv7_IivArt_1 "{it:t}{sub:7}{&rarr}{it:t}{sub:14}"

```

### \*\*\*Graph

```

coefplot (M4a_24oct2015, mc("241 163 64") ciopts(lc("241 163 64")))
///

    label(multivariable model 4) )
    ///

(M4aTV37_24oct2015, mc("153 142 195") ciopts(lc("153 142 195")))
///

    label("model 4 with time interaction")
    ///

, eform baselevels xline(1, lc("27 158 119"))
///

order( _ISpeciesX_2 _ISpeciesX_4 _ISpeciesX_5
///

    . _IEthnicX_2 _IEthnicX_3
    ///

    . _IAGR4_4b_1 tv7_IAGR4_4b_1 _IAGR4_4b_2 _IAGR4_4b_3 tv7_IAGR4_4b_3
    ///

    . _IsexPreg_2 _IsexPreg_3
    ///

    . _IivArt_1)
    ///

headings(_ISpeciesX_2 = "{it:P.falciparum}" (reference)"
///

    _IEthnicX_2 = "Highland (reference)"
    ///

    _IAGR4_4b_1 = " {&ge;} 15 (reference)"
    ///

    _IsexPreg_2 = "female, pregnant (reference)"
    ///

    _IivArt_1 = "IV quinine (reference)")
    ///

coeflabels(,labsize(small)) legend(cols(1))
///

```

```

graphr(color(white) lc(white) margin(2 2 0 0)) plotr(color(white) lc(white))
///
grid(within glwidth(thin)) ysize(20) xsize(15)
///
xtitle("Hazard Ratio", margin(medsmall))      xlab(,labsize(small))
///
xmlab(1 "reference",add tlc("27 158 119"))
///
tlength(*8) labcolor("27 158 119") tlwidth(medium))          ///
subtitle("Early death in outpatients on intravenous treatment",
///
size(medium) margin(-30 0 2 0))
///
note("Note: {it:t} refers to analysis time in days since presentation with a malaria
episode; " ///
"          i.e. time is split at day 3 and/or day 7 following presentation, where
specified." ///
, margin(-37 0 0 2) size(vsmall) )

graph export "C:\data\malaria\figures\Model3_compare24oct2015.emf", as(emf) replace

```