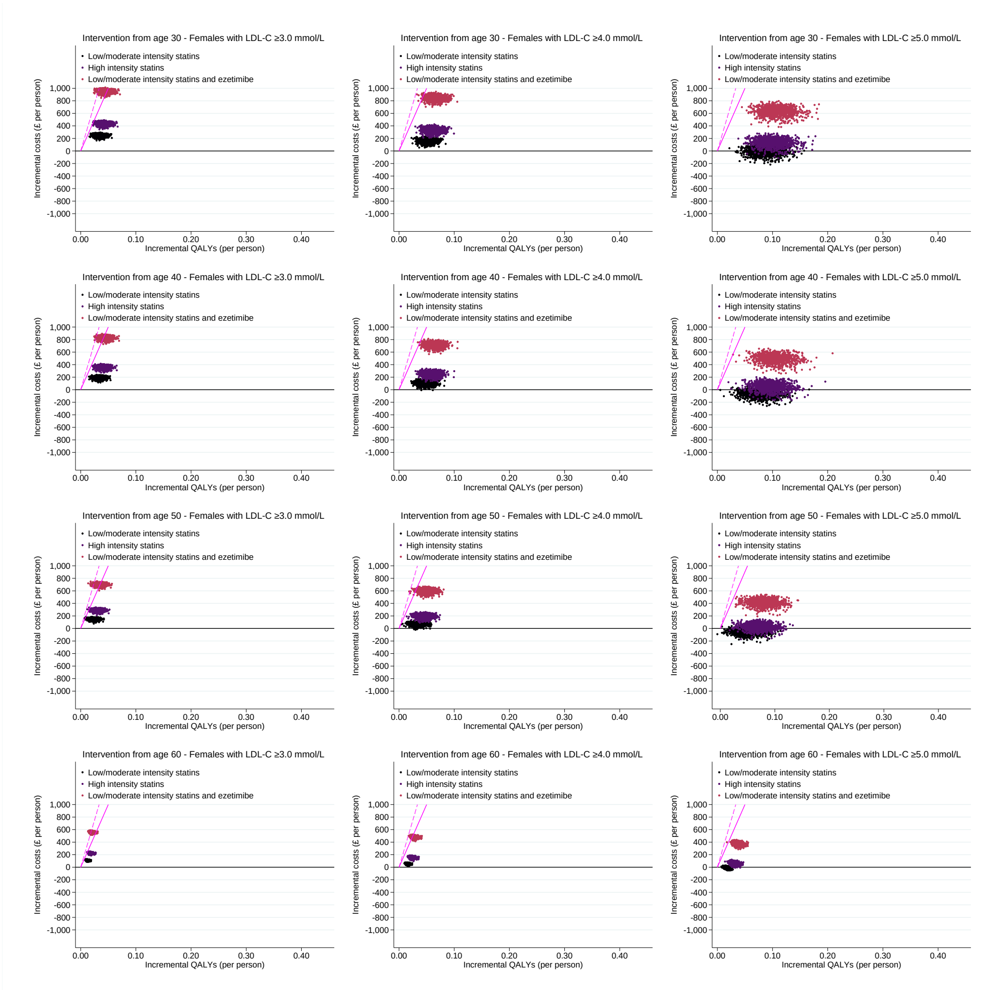

Figure 9.25: PSA simulations presented in a common cost-effectiveness plane, by age of intervention and LDL-C, excluding Inclisiran. Females. Solid line: £20,000 per QALY willingness-to-pay threshold; dashed line: £30,000 per QALY willingness-to-pay threshold

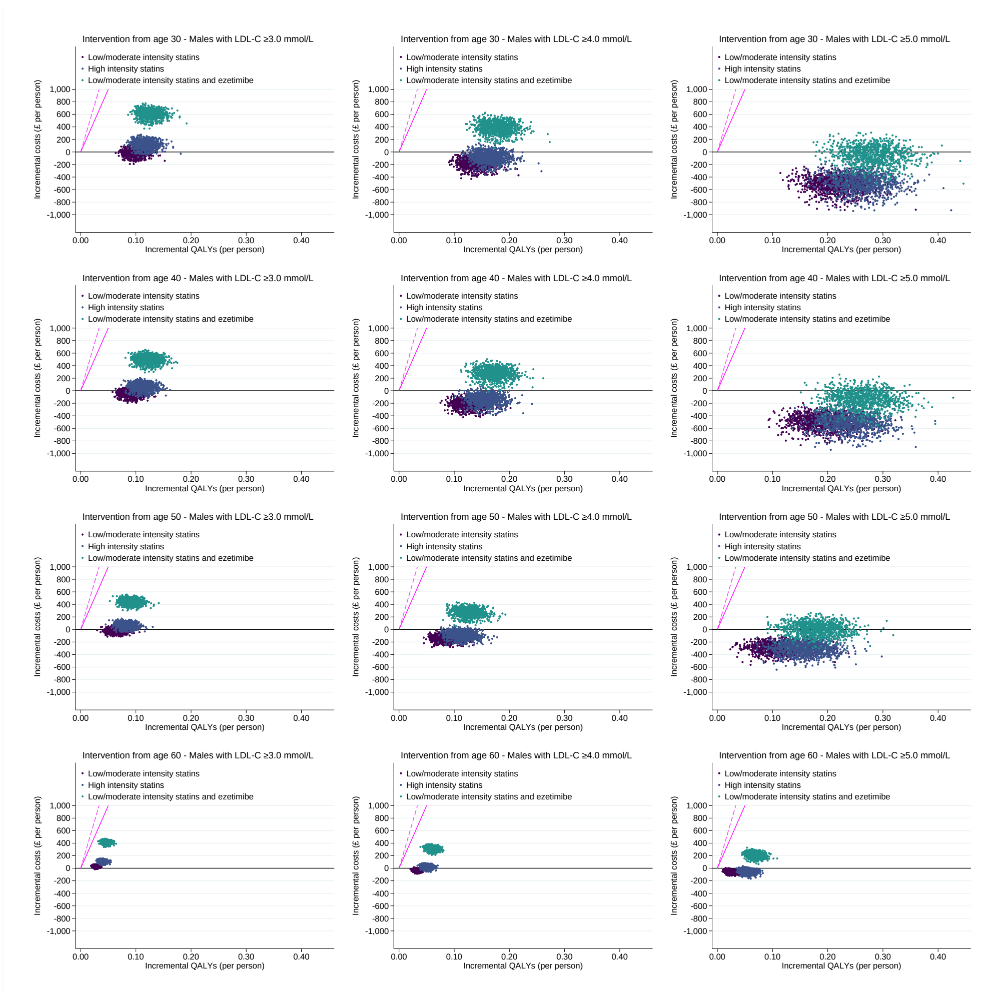

Figure 9.26: PSA simulations presented in a common cost-effectiveness plane, by age of intervention and LDL-C, excluding Inclisiran. Males. Solid line: £20,000 per QALY willingness-to-pay threshold; dashed line: £30,000 per QALY willingness-to-pay threshold

```
GPH/PSAscatter0sexldl_0_3_40.gph ///
GPH/PSAscatter0sexldl_0_4_40.gph ///
GPH/PSAscatter0sexldl_0_5_40.gph ///
GPH/PSAscatter0sexldl_0_3_50.gph ///
GPH/PSAscatter0sexldl_0_4_50.gph ///
GPH/PSAscatter0sexldl_0_5_50.gph ///
GPH/PSAscatter0sexldl_0_3_60.gph ///
GPH/PSAscatter0sexldl_0_4_60.gph ///
GPH/PSAscatter0sexldl_0_5_60.gph ///
, graphregion(color(white)) altshrink cols(3) xsize(4)
> n a common cost-effectiveness plane, by age of intervention and LDL-C. Females.)
graph combine ///
GPH/PSAscatter0sexldl_1_3_30.gph ///
GPH/PSAscatter0sexldl_1_4_30.gph ///
GPH/PSAscatter0sexldl_1_5_30.gph ///
GPH/PSAscatter0sexldl_1_3_40.gph ///
GPH/PSAscatter0sexldl_1_4_40.gph ///
GPH/PSAscatter0sexldl_1_5_40.gph ///
GPH/PSAscatter0sexldl_1_3_50.gph ///
GPH/PSAscatter0sexldl_1_4_50.gph ///
GPH/PSAscatter0sexldl_1_5_50.gph ///
GPH/PSAscatter0sexldl_1_3_60.gph ///
GPH/PSAscatter0sexldl_1_4_60.gph ///
GPH/PSAscatter0sexldl_1_5_60.gph ///
, graphregion(color(white)) altshrink cols(3) xsize(4)
> n a common cost-effectiveness plane, by age of intervention and LDL-C. Males.)
graph combine ///
GPH/PSAscatter1sexldl_0_3_30.gph ///
GPH/PSAscatter1sexldl_0_4_30.gph ///
GPH/PSAscatter1sexldl_0_5_30.gph ///
GPH/PSAscatter1sexldl_0_3_40.gph ///
GPH/PSAscatter1sexldl_0_4_40.gph ///
GPH/PSAscatter1sexldl_0_5_40.gph ///
GPH/PSAscatter1sexldl_0_3_50.gph ///
GPH/PSAscatter1sexldl_0_4_50.gph ///
GPH/PSAscatter1sexldl_0_5_50.gph ///
GPH/PSAscatter1sexldl_0_3_60.gph ///
GPH/PSAscatter1sexldl_0_4_60.gph ///
GPH/PSAscatter1sexldl_0_5_60.gph ///
, graphregion(color(white)) altshrink cols(3) xsize(4)
> n a common cost-effectiveness plane, by age of intervention and LDL-C, excluding Inclisiran. Femal
> es. Solid line: \textsterling 20,000 per QALY willingness-to-pay threshold; dashed line: \textster
> ling 30,000 per QALY willingness-to-pay threshold)
graph combine ///
GPH/PSAscatter1sexldl_1_3_30.gph ///
GPH/PSAscatter1sexldl_1_4_30.gph ///
GPH/PSAscatter1sexldl_1_5_30.gph ///
GPH/PSAscatter1sexldl_1_3_40.gph ///
GPH/PSAscatter1sexldl_1_4_40.gph ///
GPH/PSAscatter1sexldl_1_5_40.gph ///
GPH/PSAscatter1sexldl_1_3_50.gph ///
GPH/PSAscatter1sexldl_1_4_50.gph ///
GPH/PSAscatter1sexldl_1_5_50.gph ///
GPH/PSAscatter1sexldl_1_3_60.gph ///
GPH/PSAscatter1sexldl_1_4_60.gph ///
GPH/PSAscatter1sexldl_1_5_60.gph ///
, graphregion(color(white)) altshrink cols(3) xsize(4)
> n a common cost-effectiveness plane, by age of intervention and LDL-C, excluding Inclisiran. Males
> . Solid line: \textsterling 20,000 per QALY willingness-to-pay threshold; dashed line: \textsterli
> ng 30,000 per QALY willingness-to-pay threshold)
```

10 Scenario analyses

It's also of interest to check some scenarios for this analysis. The discounting rate is particularly interesting in this analysis, as the analysis timespan is different from different ages, and a steep discounting rate could have major implications across such a dramatic age span. Additionally, statins notoriously have poor adherence, so it's worth looking at what happens when adherence to statins drops in two scenarios. The first scenario will assume the worst case – people still get their prescriptions (and so incur a cost) but the benefit fades. Inclisiran doesn't suffer from the same issue – if people aren't adherent, it's because they didn't show up to the doctor's appointment, not because they got Inclisiran dispensed and didn't take it, so both effect and cost would be removed from the analysis, making little/no difference to the ICER. However, Inclisiran is a new drug, and the long-term efficacy on lowering LDL-C is unclear, so this first scenario could also shed some light on the expected benefits/costs of Inclisiran if its' efficacy decreases over time. Second, the more likely non-adherence case: people stop taking their prescription, but don't get it dispensed, so do not accrue benefit or cost.

Thus, the following scenario analyses will be conducted:

- Discounting at 0%
- Discounting at 1.5%
- The interventions decrease in effectiveness on LDL-C by 1% per year, and for statin-based interventions only, a random sample of 20% stop taking them immediately (but still incur costs).
- 40% of people are immediately non-adherent to therapy, and do not incur costs.

The first two only need changes to the utility and cost matrices, but the third and fourth require re-simulation.

10.1 code

```
quietly {
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
gen YLLn_`i´=0.1*DC_`i´
replace YLLn_`i´ = YLLn_`i´/2 if age == `i´
sort age
gen double YLL_`i´ = sum(YLLn_`i´)
}
keep age YLL_30 YLL_40 YLL_50 YLL_60
tostring age, replace force format(%9.1f)
destring age, replace
save SCE/YLL_Matrix_DC0, replace
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((age-`i´))) if age >= `i´
gen YLLn_`i´=0.1*DC_`i´
replace YLLn_`i´ = YLLn_`i´/2 if age == `i´
```

```
sort age
gen double YLL_`i´ = sum(YLLn_`i´)
}
keep age YLL_30 YLL_40 YLL_50 YLL_60
tostring age, replace force format(%9.1f)
destring age, replace
save SCE/YLL_Matrix_DC1, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
gen UT = 0.9454933+0.0256466*sex-0.0002213*MIage - 0.0000294*(MIage^2)
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((MIage-`i´))) if MIage >= `i´
gen QAL_`i´=0.1*UT*DC_`i´
replace QAL_`i´ = QAL_`i´/2 if MIage == `i´
bysort sex (MIage) : gen double QALY_nMI_`i´ = sum(QAL_`i´)
}
keep MIage sex QALY_nMI_30 QALY_nMI_40 QALY_nMI_50 QALY_nMI_60
tostring MIage, replace force format(%9.1f)
destring MIage, replace
save SCE/QALY_nMI_Matrix_DC0, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
gen UT = 0.9454933+0.0256466*sex-0.0002213*MIage - 0.0000294*(MIage^2)
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((MIage-`i´))) if MIage >= `i´
gen QAL_`i´=0.1*UT*DC_`i´
replace QAL_`i´ = QAL_`i´/2 if MIage == `i´
bysort sex (MIage) : gen double QALY_nMI_`i´ = sum(QAL_`i´)
}
keep MIage sex QALY_nMI_30 QALY_nMI_40 QALY_nMI_50 QALY_nMI_60
tostring MIage, replace force format(%9.1f)
destring MIage, replace
save SCE/QALY_nMI_Matrix_DC1, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
drop if age > 85
gen UT = 0.9454933+0.0256466*sex-0.0002213*age - 0.0000294*(age^2)
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
gen QAL_`i´=0.1*UT*DC_`i´*0.79
replace QAL_`i´ = QAL_`i´ - 0.01 if durn <0.301
replace QAL_`i´ = 0 if QAL_`i´ < 0
bysort sex MIage (age) : gen double QALY_MI_`i´ = sum(QAL_`i´)
}
keep age MIage sex QALY_MI_30 QALY_MI_40 QALY_MI_50 QALY_MI_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/QALY_MI_Matrix_DC0, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
```

```
drop if age > 85
gen UT = 0.9454933+0.0256466*sex-0.0002213*age - 0.0000294*(age^2)
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((age-`i´))) if age >= `i´
gen QAL_`i´=0.1*UT*DC_`i´*0.79
replace QAL_`i´ = QAL_`i´ - 0.01 if durn <0.301
replace QAL_`i´ = 0 if QAL_`i´ < 0
bysort sex MIage (age) : gen double QALY_MI_`i´ = sum(QAL_`i´)
}
keep age MIage sex QALY_MI_30 QALY_MI_40 QALY_MI_50 QALY_MI_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/QALY_MI_Matrix_DC1, replace
clear
set obs 551
gen MIage = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((MIage-`i´))) if MIage >= `i´
gen double ACMIcost_`i´ = 2047.31*DC_`i´
}
keep MIage ACMIcost_30 ACMIcost_40 ACMIcost_50 ACMIcost_60
tostring MIage, replace force format(%9.1f)
destring MIage, replace
save SCE/ACcost_Matrix_DC0, replace
clear
set obs 551
gen MIage = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((MIage-`i´))) if MIage >= `i´
gen double ACMIcost_`i´ = 2047.31*DC_`i´
}
keep MIage ACMIcost_30 ACMIcost_40 ACMIcost_50 ACMIcost_60
tostring MIage, replace force format(%9.1f)
destring MIage, replace
save SCE/ACcost_Matrix_DC1, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
drop if age > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
gen cost_`i´ = DC_`i´*4705.45/5 if durn <=0.5
replace cost_`i´ = DC_`i´*1015.21/10 if cost_`i´==.
bysort sex MIage (age) : gen double CHMIcost_`i´ = sum(cost_`i´)
}
keep age MIage sex CHMIcost_30 CHMIcost_40 CHMIcost_50 CHMIcost_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/CHcost_Matrix_DC0, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
drop if age > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((age-`i´))) if age >= `i´
gen cost_`i´ = DC_`i´*4705.45/5 if durn <=0.5
replace cost_`i´ = DC_`i´*1015.21/10 if cost_`i´==.
bysort sex MIage (age) : gen double CHMIcost_`i´ = sum(cost_`i´)
```

```
}
keep age MIage sex CHMIcost_30 CHMIcost_40 CHMIcost_50 CHMIcost_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/CHcost_Matrix_DC1, replace
clear
set obs 551
gen agellt = round((_n+299)/10,0.1)
expand 551
bysort age : gen MIage = round(age+((_n-1)/10),0.1)
drop if MIage > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((MIage-`i´))) if MIage >= `i´
gen cost = DC_`i´*1.9
bysort agellt (MIage) : gen double STcost_`i´ = sum(cost) if MIage >= `i´
drop cost
}
keep agellt MIage STcost_30 STcost_40 STcost_50 STcost_60
tostring agellt MIage, replace force format(%9.1f)
destring agellt MIage, replace
save SCE/STcost_Matrix_DC0, replace
clear
set obs 551
gen agellt = round((_n+299)/10,0.1)
expand 551
bysort age : gen MIage = round(age+((_n-1)/10),0.1)
drop if MIage > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((MIage-`i´))) if MIage >= `i´
gen cost = DC_`i´*1.9
bysort agellt (MIage) : gen double STcost_`i´ = sum(cost) if MIage >= `i´
drop cost
}
keep agellt MIage STcost_30 STcost_40 STcost_50 STcost_60
tostring agellt MIage, replace force format(%9.1f)
destring agellt MIage, replace
save SCE/STcost_Matrix_DC1, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
drop if age > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
gen cost_`i´ = DC_`i´*19/10
bysort sex MIage (age) : gen double CHSTcost_`i´ = sum(cost_`i´)
}
keep age MIage sex CHSTcost_30 CHSTcost_40 CHSTcost_50 CHSTcost_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/CHSTcost_Matrix_DC0, replace
clear
set obs 551
gen MIage = (_n+299)/10
expand 2
bysort MIage : gen sex = _n-1
expand 550
bysort MIage sex : gen durn = _n/10
gen age = round(MIage+durn,0.1)
drop if age > 85
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((age-`i´))) if age >= `i´
gen cost_`i´ = DC_`i´*19/10
bysort sex MIage (age) : gen double CHSTcost_`i´ = sum(cost_`i´)
```

```
}
keep age MIage sex CHSTcost_30 CHSTcost_40 CHSTcost_50 CHSTcost_60
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
save SCE/CHSTcost_Matrix_DC1, replace
forval a = 1/4 {
if `a´ == 1 {
local aa = 18.39
}
if `a´ == 2 {
local aa = 27.39
}
if `a´ == 3 {
local aa = 49.31
}
if `a´ == 4 {
local aa = 3974.72
}
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
gen cost = DC_`i´*`aa´/10
gen double MDcost_`i´ = sum(cost)
drop cost
}
keep age MDcost_30 MDcost_40 MDcost_50 MDcost_60
tostring age, replace force format(%9.1f)
destring age, replace
save SCE/INTcost_Matrix_`a´_DC0, replace
}
forval a = 1/4 {
if `a´ == 1 {
local aa = 18.39
}
if `a´ == 2 {
local aa = 27.39
}
if `a´ == 3 {
local aa = 49.31
}
if `a´ == 4 {
local aa = 3974.72
}
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.015)^((age-`i´))) if age >= `i´
gen cost = DC_`i´*`aa´/10
gen double MDcost_`i´ = sum(cost)
drop cost
}
keep age MDcost_30 MDcost_40 MDcost_50 MDcost_60
tostring age, replace force format(%9.1f)
destring age, replace
save SCE/INTcost_Matrix_`a´_DC1, replace
}
set seed 28371057
forval a = 1(1000)458001 {
use UKB_working, clear
drop if dob==.
drop if mid <= dofa
keep if ldl!=.
gen ldl1 = ldl
replace ldl1 = ldl*(1/0.7) if llt==1
su(ldl1)
```

```
gen ldldist = (ldl1-r(mean))/r(sd)
replace ldldist = -3 if ldldist < -3
gen njm = _n
local aa = `a´+999
keep if inrange(njm, `a´,`aa´)
gen agellt = ((dofa-(365.25*5))-dob)/365.25  if llt==1
expand 850
bysort eid : gen age = _n/10
gen ldlorig = ldl
replace ldl = ldl*(1/0.7) if age < agellt & agellt!=.
replace ldl = ldl*(1/0.7)*0.55 if age >= agellt & agellt!=.
gen lltpr = 0
replace lltpr = 0.0001 if inrange(age,39.99,49.99)
replace lltpr = 0.0015 if inrange(age,49.999,59.99)
replace lltpr = 0.0035 if age >= 59.999
gen agedofa = (dofa-dob)/365.25
replace lltpr = 0 if age < agedofa
replace lltpr = lltpr*(0.95) if sex == 0
replace lltpr = lltpr*(1.05) if sex == 1
replace lltpr = lltpr*(3^ldldist)
replace lltpr = 1-exp(-lltpr)
gen prllt = runiform()
gen lltinit = 1 if lltpr >= prllt & llt==0
bysort eid (age) : gen rn2 = prllt[5]
replace lltinit = 2 if rn2 < 0.2 & lltinit==1
bysort eid lltinit age : gen agellt0 = age if lltinit ==1 & _n == 1
bysort eid (age) : egen llt1 = min(lltinit)
bysort eid (age) : egen agellt1 = min(agellt0) if llt1 == 1
ta agellt1
replace ldl = ldl*0.55 if age >= agellt1 & llt1 == 1
sort eid age
replace ldl = 0.75+(0.1875*ldldist) if inrange(age,0.09,0.11)
replace ldl = 2+(0.5*ldldist)  if inrange(age,4.99,5.01)
bysort eid (age) : replace ldl = (ldl[50]-ldl[1])/49 if inrange(age,0.11,4.99)
bysort eid (age) : replace ldl = (ldl[400]-ldl[50])/350 if inrange(age,5.01,39.99)
bysort eid (age) : replace ldl = sum(ldl) if inrange(age,0.09,4.99)
bysort eid (age) : replace ldl = sum(ldl) if inrange(age,4.99,39.99)
gen ldl_0_30 = ldl if age < 40
replace ldl_0_30 = ldl1 if age >= 40
gen ldl_0_40 = ldl_0_30
gen ldl_0_50 = ldl if age < 50
replace ldl_0_50 = ldl1 if age >= 50
gen ldl_0_60 = ldl if age < 60
replace ldl_0_60 = ldl1 if age >= 60
sort eid age
preserve
bysort eid lltinit age : gen agellt3 = age if lltinit==2 & _n == 1
bysort eid (age) : egen agellt4 = min(agellt3) if llt1 == 2
bysort eid (age) : keep if _n == 1
gen agellt2 = min(agellt,agellt1,agellt4)
keep eid agellt2
rename agellt2 agellt
replace agellt = round(agellt,0.1)
tostring agellt, force format(%9.1f) replace
destring agellt, replace
save SCE/agellt_control_`a´_SCE3, replace
restore
keep eid sex ldl age njm ldl_0_30-ldl_0_60 prllt
forval i = 30(10)60 {
forval ii = 1/4 {
gen ldl_`ii´_`i´ = ldl_0_`i´
}
replace ldl_1_`i´ = ldl_0_`i´*(1-(0.4*(0.99^(age-`i´)))) if age >= `i´
replace ldl_2_`i´ = ldl_0_`i´*(1-(0.5*(0.99^(age-`i´)))) if age >= `i´
replace ldl_3_`i´ = ldl_0_`i´*(1-(0.55*(0.99^(age-`i´)))) if age >= `i´
replace ldl_4_`i´ = ldl_0_`i´*(1-(0.515*(0.99^(age-`i´)))) if age >= `i´
}
bysort eid (age) : gen rand = prllt[1]
```

```
forval i = 30(10)60 {
replace ldl_1_`i´ = ldl_0_`i´ if rand <= 0.2
replace ldl_2_`i´ = ldl_0_`i´ if rand <= 0.2
replace ldl_3_`i´ = ldl_0_`i´ if rand <= 0.2
}
bysort eid (age) : gen cumldl = sum(ldl)/10 if ldl!=.
gen aveldl = cumldl/age
forval i = 1/4 {
forval ii = 30(10)60 {
bysort eid (age) : gen cumldl_`i´_`ii´ = sum(ldl_`i´_`ii´)/10
gen aveldl_`i´_`ii´ = cumldl_`i´_`ii´/age
}
}
keep eid sex age aveldl ///
aveldl_1_30 aveldl_1_40 aveldl_1_50 aveldl_1_60 ///
aveldl_2_30 aveldl_2_40 aveldl_2_50 aveldl_2_60 ///
aveldl_3_30 aveldl_3_40 aveldl_3_50 aveldl_3_60 ///
aveldl_4_30 aveldl_4_40 aveldl_4_50 aveldl_4_60
keep if age >= 30
tostring age, replace force format(%9.1f)
destring age, replace
merge m:1 sex age using ldlave_reg
drop if _merge == 2
drop _merge
merge m:1 sex age using MI_inc
drop if _merge == 2
drop _merge
rename rate nfMIrate
rename errr nfMIerrr
merge m:1 sex age using MIdrates
drop if _merge == 2
drop _merge MI
rename rate fMIrate
rename errr fMIerrr
sort eid age
save SCE/LDL_trajectories_`a´_SCE3, replace
}
clear
forval a = 1(1000)458001 {
append using SCE/agellt_control_`a´_SCE3
}
save SCE/agellt_control_SCE3, replace
forval a = 1(1000)458001 {
erase SCE/agellt_control_`a´_SCE3.dta
}
set seed 28371057
forval a = 1(1000)458001 {
use UKB_working, clear
drop if dob==.
drop if mid <= dofa
keep if ldl!=.
gen ldl1 = ldl
replace ldl1 = ldl*(1/0.7) if llt==1
su(ldl1)
gen ldldist = (ldl1-r(mean))/r(sd)
replace ldldist = -3 if ldldist < -3
gen njm = _n
local aa = `a´+999
keep if inrange(njm, `a´,`aa´)
gen agellt = ((dofa-(365.25*5))-dob)/365.25  if llt==1
expand 850
bysort eid : gen age = _n/10
gen ldlorig = ldl
replace ldl = ldl*(1/0.7) if age < agellt & agellt!=.
replace ldl = ldl*(1/0.7)*0.55 if age >= agellt & agellt!=.
gen lltpr = 0
replace lltpr = 0.0001 if inrange(age,39.99,49.99)
replace lltpr = 0.0015 if inrange(age,49.999,59.99)
```

```
replace lltpr = 0.0035 if age >= 59.999
gen agedofa = (dofa-dob)/365.25
replace lltpr = 0 if age < agedofa
replace lltpr = lltpr*(0.95) if sex == 0
replace lltpr = lltpr*(1.05) if sex == 1
replace lltpr = lltpr*(3^ldldist)
replace lltpr = 1-exp(-lltpr)
gen prllt = runiform()
gen lltinit = 1 if lltpr >= prllt & llt==0
bysort eid (age) : gen rn2 = prllt[5]
replace lltinit = . if rn2 < 0.4 & lltinit==1
bysort eid lltinit age : gen agellt0 = age if lltinit ==1 & _n == 1
bysort eid (age) : egen llt1 = min(lltinit)
bysort eid (age) : egen agellt1 = min(agellt0) if llt1 == 1
ta agellt1
replace ldl = ldl*0.55 if age >= agellt1 & llt1 == 1
sort eid age
replace ldl = 0.75+(0.1875*ldldist) if inrange(age,0.09,0.11)
replace ldl = 2+(0.5*ldldist)  if inrange(age,4.99,5.01)
bysort eid (age) : replace ldl = (ldl[50]-ldl[1])/49 if inrange(age,0.11,4.99)
bysort eid (age) : replace ldl = (ldl[400]-ldl[50])/350 if inrange(age,5.01,39.99)
bysort eid (age) : replace ldl = sum(ldl) if inrange(age,0.09,4.99)
bysort eid (age) : replace ldl = sum(ldl) if inrange(age,4.99,39.99)
gen ldl_0_30 = ldl if age < 40
replace ldl_0_30 = ldl1 if age >= 40
gen ldl_0_40 = ldl_0_30
gen ldl_0_50 = ldl if age < 50
replace ldl_0_50 = ldl1 if age >= 50
gen ldl_0_60 = ldl if age < 60
replace ldl_0_60 = ldl1 if age >= 60
sort eid age
preserve
bysort eid (age) : keep if _n == 1
gen agellt2 = min(agellt,agellt1)
keep eid agellt2
rename agellt2 agellt
replace agellt = round(agellt,0.1)
tostring agellt, force format(%9.1f) replace
destring agellt, replace
save SCE/agellt_control_`a´_SCE4, replace
restore
keep eid sex ldl age njm ldl_0_30-ldl_0_60 prllt
forval i = 30(10)60 {
forval ii = 1/4 {
gen ldl_`ii´_`i´ = ldl_0_`i´
}
replace ldl_1_`i´ = ldl_0_`i´*(1-(0.4*(0.99^(age-`i´)))) if age >= `i´
replace ldl_2_`i´ = ldl_0_`i´*(1-(0.5*(0.99^(age-`i´)))) if age >= `i´
replace ldl_3_`i´ = ldl_0_`i´*(1-(0.55*(0.99^(age-`i´)))) if age >= `i´
replace ldl_4_`i´ = ldl_0_`i´*(1-(0.515*(0.99^(age-`i´)))) if age >= `i´
}
bysort eid (age) : gen rand = prllt[1]
forval i = 30(10)60 {
replace ldl_1_`i´ = ldl_0_`i´ if rand <= 0.4
replace ldl_2_`i´ = ldl_0_`i´ if rand <= 0.4
replace ldl_3_`i´ = ldl_0_`i´ if rand <= 0.4
replace ldl_4_`i´ = ldl_0_`i´ if rand <= 0.4
}
bysort eid (age) : gen cumldl = sum(ldl)/10 if ldl!=.
gen aveldl = cumldl/age
forval i = 1/4 {
forval ii = 30(10)60 {
bysort eid (age) : gen cumldl_`i´_`ii´ = sum(ldl_`i´_`ii´)/10
gen aveldl_`i´_`ii´ = cumldl_`i´_`ii´/age
}
}
preserve
bysort eid (age) : keep if _n == 1
```

```
keep eid rand
gen nointcost = 1 if rand <= 0.4
save SCE/nointcost_`a´_SCE4, replace
restore
keep eid sex age aveldl ///
aveldl_1_30 aveldl_1_40 aveldl_1_50 aveldl_1_60 ///
aveldl_2_30 aveldl_2_40 aveldl_2_50 aveldl_2_60 ///
aveldl_3_30 aveldl_3_40 aveldl_3_50 aveldl_3_60 ///
aveldl_4_30 aveldl_4_40 aveldl_4_50 aveldl_4_60
keep if age >= 30
tostring age, replace force format(%9.1f)
destring age, replace
merge m:1 sex age using ldlave_reg
drop if _merge == 2
drop _merge
merge m:1 sex age using MI_inc
drop if _merge == 2
drop _merge
rename rate nfMIrate
rename errr nfMIerrr
merge m:1 sex age using MIdrates
drop if _merge == 2
drop _merge MI
rename rate fMIrate
rename errr fMIerrr
sort eid age
save SCE/LDL_trajectories_`a´_SCE4, replace
}
clear
forval a = 1(1000)458001 {
append using SCE/agellt_control_`a´_SCE4
}
save SCE/agellt_control_SCE4, replace
clear
forval a = 1(1000)458001 {
append using SCE/nointcost_`a´_SCE4
}
save SCE/nointcost_SCE4, replace
forval a = 1(1000)458001 {
erase SCE/agellt_control_`a´_SCE4.dta
erase SCE/nointcost_`a´_SCE4.dta
}
forval t = 3/4 {
forval a = 1(1000)458001 {
use SCE/LDL_trajectories_`a´_SCE`t´, clear
gen nfMIadj = nfMIrate*(0.48^(ldlave-aveldl))
gen fMIadj = fMIrate*(0.48^(ldlave-aveldl))
forval i = 1/4 {
forval ii = 30(10)60 {
gen nfMIadj_`i´_`ii´ = nfMIrate*(0.48^(ldlave-aveldl_`i´_`ii´))
gen fMIadj_`i´_`ii´ = fMIrate*(0.48^(ldlave-aveldl_`i´_`ii´))
}
}
keep eid sex age nfMIrate-fMIadj_4_60
forval i = 30(0.1)84.9 {
preserve
local ii = `i´-0.05
local iii = `i´+0.05
local iiii = round(`i´*10,1)
keep if inrange(age,`ii´,`iii´)
save SCE/MIrisk_`a´_`iiii´_SCE`t´, replace
restore
}
}
forval i = 30(0.1)84.99 {
clear
local ii = `i´-0.05
local iii = `i´+0.05
```

```
local iiii = round(`i´*10,1)
forval a = 1(1000)458001 {
append using SCE/MIrisk_`a´_`iiii´_SCE`t´
}
replace age = age*10
save SCE/MIrisk_com_`iiii´_SCE`t´, replace
}
forval a = 1001(1000)458001 {
erase SCE/LDL_trajectories_`a´_SCE`t´.dta
}
forval a = 1(1000)458001 {
forval i = 30(0.1)84.99 {
local iiii = round(`i´*10,1)
erase SCE/MIrisk_`a´_`iiii´_SCE`t´.dta
}
}
use Microsim_30, clear
save SCE/Microsim_30_SCE`t´, replace
set seed 6746
forval i = 300/849 {
merge 1:1 eid age using SCE/MIrisk_com_`i´_SCE`t´
drop if _merge == 2
rename (nfMIadj fMIadj) (nfMI fMI)
keep eid-rand nfMI fMI
merge m:1 age sex using NCdrates10
drop if _merge == 2
rename rate NCd
drop errr-_merge
merge m:1 age sex durn MI using PMId10
drop if _merge == 2
rename rate PMId
drop adx errr _merge
gen ratesum = nfMI+fMI+NCd
gen tpsum = 1-exp(-ratesum*0.1)
replace nfMI = tpsum*nfMI/ratesum
replace fMI = tpsum*fMI/ratesum
replace NCd = tpsum*NCd/ratesum
replace PMId = 1-exp(-PMId*0.1)
drop ratesum tpsum
sort eid
replace rand = runiform()
recode MI 0=1 if (nfMI > rand) & Death == 0
replace rand = runiform()
recode MI 0=1 if (fMI > rand) & Death == 0
recode Death 0=1 if (fMI > rand) & durn == 0
replace rand = runiform()
recode Death 0=1 if (NCd > rand) & MI == 0
replace rand = runiform()
recode Death 0=1 if (PMId > rand) & MI == 1 & durn!=0
replace age = age+1 if Death == 0
replace durn = durn+1 if MI == 1 & Death == 0
drop nfMI-PMId
if `i´ == 399 {
save SCE/Microsim_40_SCE`t´, replace
set seed 2791
}
if `i´ == 499 {
save SCE/Microsim_50_SCE`t´, replace
set seed 9261
}
if `i´ == 599 {
save SCE/Microsim_60_SCE`t´, replace
set seed 1467
}
}
replace age = age/10
replace durn = durn/10
save SCE/trial_control_SCE`t´, replace
```

```
forval i = 1/4 {
forval ii = 30(10)60 {
if `ii´ == 30 {
local a = 300
set seed 6746
}
if `ii´ == 40 {
local a = 400
set seed 2791
}
if `ii´ == 50 {
local a = 500
set seed 9261
}
if `ii´ == 60 {
local a = 600
set seed 1467
}
use SCE/Microsim_`ii´_SCE`t´, clear
forval iii = `a´/849 {
merge 1:1 eid age using SCE/MIrisk_com_`iii´_SCE`t´
drop if _merge == 2
rename (nfMIadj_`i´_`ii´ fMIadj_`i´_`ii´) (nfMI fMI)
keep eid-rand nfMI fMI
merge m:1 age sex using NCdrates10
drop if _merge == 2
rename rate NCd
drop errr-_merge
merge m:1 age sex durn MI using PMId10
drop if _merge == 2
rename rate PMId
drop adx errr _merge
gen ratesum = nfMI+fMI+NCd
gen tpsum = 1-exp(-ratesum*0.1)
replace nfMI = tpsum*nfMI/ratesum
replace fMI = tpsum*fMI/ratesum
replace NCd = tpsum*NCd/ratesum
replace PMId = 1-exp(-PMId*0.1)
drop ratesum tpsum
sort eid
replace rand = runiform()
recode MI 0=1 if (nfMI > rand) & Death == 0
replace rand = runiform()
recode MI 0=1 if (fMI > rand) & Death == 0
recode Death 0=1 if (fMI > rand) & durn == 0
replace rand = runiform()
recode Death 0=1 if (NCd > rand) & MI == 0
replace rand = runiform()
recode Death 0=1 if (PMId > rand) & MI == 1 & durn!=0
replace age = age+1 if Death == 0
replace durn = durn+1 if MI == 1 & Death == 0
drop nfMI-PMId
}
replace age = age/10
replace durn = durn/10
save SCE/trial_`i´_`ii´_SCE`t´, replace
}
}
forval iii = 300/849 {
erase SCE/MIrisk_com_`iii´_SCE`t´.dta
}
}
forval t = 1/4 {
if `t´ >= 3 {
use SCE/trial_control_SCE`t´, clear
}
else {
use trial_control, clear
```

```
}
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
if `t´ >= 3 {
merge 1:1 eid using SCE/agellt_control_SCE`t´
}
else {
merge 1:1 eid using agellt_control
}
drop if _merge == 2
drop _merge
if `t´ == 1 {
merge m:1 age using SCE/YLL_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage sex using SCE/QALY_nMI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/QALY_MI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage using SCE/ACcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 agellt MIage using SCE/STcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHSTcost_Matrix_DC0
drop if _merge == 2
drop _merge
}
else if `t´ == 2 {
merge m:1 age using SCE/YLL_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 MIage sex using SCE/QALY_nMI_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/QALY_MI_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 MIage using SCE/ACcost_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHcost_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 agellt MIage using SCE/STcost_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHSTcost_Matrix_DC1
drop if _merge == 2
drop _merge
}
else {
merge m:1 age using YLL_Matrix
drop if _merge == 2
drop _merge
merge m:1 MIage sex using QALY_nMI_Matrix
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using QALY_MI_Matrix
drop if _merge == 2
```

```
drop _merge
merge m:1 MIage using ACcost_Matrix
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHcost_Matrix
drop if _merge == 2
drop _merge
merge m:1 agellt MIage using STcost_Matrix
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHSTcost_Matrix
drop if _merge == 2
drop _merge
}
forval i = 30(10)60 {
recode QALY_MI_`i´ .=0
recode ACMIcost_`i´ .=0
recode CHMIcost_`i´ .=0
recode STcost_`i´ .=0
recode CHSTcost_`i´ .=0
replace ACMIcost_`i´ = 0 if MI==0
replace ACMIcost_`i´ = ACMIcost_`i´*0.18 if MI == 1 & durn == 0
gen double QALY_`i´ = QALY_nMI_`i´ + QALY_MI_`i´
gen double MDcost_`i´ = STcost_`i´ + CHSTcost_`i´
gen double HCcost_`i´ = ACMIcost_`i´+ CHMIcost_`i´ + MDcost_`i´
}
forval i = 30(10)60 {
preserve
keep if age >= `i´ & MIage >= `i´
count
matrix A_0_`i´ = r(N)
count if MI == 1
matrix A_0_`i´ = (A_0_`i´\r(N))
count if Death == 1
matrix A_0_`i´ = (A_0_`i´\r(N))
su(YLL_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(QALY_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(MDcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(ACMIcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(CHMIcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(HCcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
restore
}
forval i = 30(10)60 {
forval ii = 1/4 {
if `t´ >= 3 {
use SCE/trial_`ii´_`i´_SCE`t´, clear
}
else {
use trial_`ii´_`i´, clear
}
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
if `t´ == 1 {
merge m:1 age using SCE/YLL_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage sex using SCE/QALY_nMI_Matrix_DC0
drop if _merge == 2
drop _merge
```

```
merge m:1 age MIage sex using SCE/QALY_MI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage using SCE/ACcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age using SCE/INTcost_Matrix_`ii´_DC0
drop if _merge == 2
drop _merge
}
else if `t´ == 2 {
merge m:1 age using SCE/YLL_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 MIage sex using SCE/QALY_nMI_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/QALY_MI_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 MIage using SCE/ACcost_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using SCE/CHcost_Matrix_DC1
drop if _merge == 2
drop _merge
merge m:1 age using SCE/INTcost_Matrix_`ii´_DC1
drop if _merge == 2
drop _merge
}
else {
merge m:1 age using YLL_Matrix
drop if _merge == 2
drop _merge
merge m:1 MIage sex using QALY_nMI_Matrix
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using QALY_MI_Matrix
drop if _merge == 2
drop _merge
merge m:1 MIage using ACcost_Matrix
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHcost_Matrix
drop if _merge == 2
drop _merge
merge m:1 age using INTcost_Matrix_`ii´
drop if _merge == 2
drop _merge
}
if `t´ == 4 {
merge 1:1 eid using SCE/nointcost_SCE4
drop if _merge == 2
drop _merge
replace MDcost_`i´ = 0 if nointcost==1
}
recode QALY_MI_`i´ .=0
recode CHMIcost_`i´ .=0
recode ACMIcost_`i´ .=0
replace ACMIcost_`i´ = 0 if MI==0
replace ACMIcost_`i´ = ACMIcost_`i´*0.18 if MI == 1 & durn == 0
gen double QALY_`i´ = QALY_nMI_`i´ + QALY_MI_`i´
gen double HCcost_`i´ = ACMIcost_`i´+ CHMIcost_`i´ + MDcost_`i´
keep if age >= `i´ & MIage >= `i´
count
```

```
matrix A_`ii´_`i´ = r(N)
count if MI == 1
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(N))
count if Death == 1
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(N))
su(YLL_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(QALY_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(MDcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(ACMIcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(CHMIcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(HCcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
}
}
matrix AA = (1\2\3\4\5\6\7\8\9)
matrix A = (J(9,1,30),AA,A_0_30,A_1_30,A_2_30,A_3_30,A_4_30\ ///
30,10,J(1,5,.)\ ///
J(9,1,40),AA,A_0_40,A_1_40,A_2_40,A_3_40,A_4_40\ ///
40,10,J(1,5,.)\ ///
J(9,1,50),AA,A_0_50,A_1_50,A_2_50,A_3_50,A_4_50\ ///
50,10,J(1,5,.)\ ///
J(9,1,60),AA,A_0_60,A_1_60,A_2_60,A_3_60,A_4_60\ ///
60,10,J(1,5,.))
clear
svmat double A
gen double D1 = A4-A3
gen double D2 = A5-A3
gen double D3 = A6-A3
gen double D4 = A7-A3
if `t´ == 1 {
save reshof0_SCE1, replace
}
bysort A1 (A2) : replace D1 = D1[9]/D1[5] if A2 == 10
bysort A1 (A2) : replace D2 = D2[9]/D2[5] if A2 == 10
bysort A1 (A2) : replace D3 = D3[9]/D3[5] if A2 == 10
bysort A1 (A2) : replace D4 = D4[9]/D4[5] if A2 == 10
gen A0 = ""
replace A0 = "N" if A2 == 1
replace A0 = "Incident MIs" if A2 == 2
replace A0 = "Deaths" if A2 == 3
replace A0 = "YLL" if A2 == 4
replace A0 = "QALYs" if A2 == 5
replace A0 = "Medication costs (\textsterling)" if A2 == 6
replace A0 = "Acute MI costs (\textsterling)" if A2 == 7
replace A0 = "Chronic MI costs (\textsterling)" if A2 == 8
replace A0 = "Total healthcare costs (\textsterling)" if A2 == 9
replace A0 = "ICER ($\Delta$ \textsterling / $\Delta$ QALY)" if A2 == 10
gen A00 = "30" if _n == 1
replace A00 = "40" if _n == 11
replace A00 = "50" if _n == 21
replace A00 = "60" if _n == 31
order A00 A0
gen P1 = 100*D1/A3
gen P2 = 100*D2/A3
gen P3 = 100*D3/A3
gen P4 = 100*D4/A3
tostring A3-D4, force format(%15.0fc) replace
tostring P1-P4, gen(p1 p2 p3 p4) format(%9.2f) force
tostring P1-P4, force format(%9.1f) replace
replace D1 = D1 + " (" + P1 + "\%)" if A2 != 1 & A2!= 4 & A2 != 5 & A2 != 10
replace D2 = D2 + " (" + P2 + "\%)" if A2 != 1 & A2!= 4 & A2 != 5 & A2 != 10
replace D3 = D3 + " (" + P3 + "\%)" if A2 != 1 & A2!= 4 & A2 != 5 & A2 != 10
replace D4 = D4 + " (" + P4 + "\%)" if A2 != 1 & A2!= 4 & A2 != 5 & A2 != 10
```

```
replace D1 = D1 + " (" + p1 + "\%)" if A2 == 4 | A2 == 5
replace D2 = D2 + " (" + p2 + "\%)" if A2 == 4 | A2 == 5
replace D3 = D3 + " (" + p3 + "\%)" if A2 == 4 | A2 == 5
replace D4 = D4 + " (" + p4 + "\%)" if A2 == 4 | A2 == 5
save reshof_SCE`t´, replace
preserve
keep A00 A0 A3 A4 D1
export delimited using CSV/Res_HOF_1_SCE`t´.csv, delimiter(":") novarnames replace
restore
preserve
keep A00 A0 A3 A5 D2
export delimited using CSV/Res_HOF_2_SCE`t´.csv, delimiter(":") novarnames replace
restore
preserve
keep A00 A0 A3 A6 D3
export delimited using CSV/Res_HOF_3_SCE`t´.csv, delimiter(":") novarnames replace
restore
preserve
keep A00 A0 A3 A7 D4
export delimited using CSV/Res_HOF_4_SCE`t´.csv, delimiter(":") novarnames replace
restore
use reshof_SCE`t´, clear
replace A00 = A00[_n-1] if A2 == 2
keep if A2 == 2 | A2 == 5 | A2 == 9 | A2 == 10
drop A1-A7 P1-p4
export delimited using CSV/Res_HOF_SCE`t´.csv, delimiter(":") novarnames replace
}
}
```

10.2 Results

Table 10.1: Microsimulation results – Low/moderate intensity statins. Scenario 1: discounting rate set at 0%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	42,009	-25,883 (-38.1%)
	Deaths	157,629	149,711	-7,918 (-5.0%)
	YLL	23,630,327	23,697,580	67,253 (0.28%)
	QALYs	19,832,113	19,925,487	93,374 (0.47%)
	Medication costs (£)	96,239,794	436,220,251	339,980,457 (353.3%)
	Acute MI costs (£)	114,594,697	70,753,600	-43,841,096 (-38.3%)
	Chronic MI costs (£)	882,406,160	549,813,701	-332,592,459 (-37.7%)
	Total healthcare costs (£)	1,093,240,651	1,056,787,552	-36,453,099 (-3.3%)
	ICER (Δ £/ Δ QALY)	.	.	-390
40	N	456,009	456,009	0
	Incident MIs	66,741	47,405	-19,336 (-29.0%)
	Deaths	155,616	149,064	-6,552 (-4.2%)
	YLL	19,010,855	19,073,416	62,561 (0.33%)
	QALYs	15,625,357	15,701,759	76,402 (0.49%)
	Medication costs (£)	95,353,631	351,179,408	255,825,777 (268.3%)
	Acute MI costs (£)	112,490,062	79,923,993	-32,566,069 (-29.0%)
	Chronic MI costs (£)	833,594,402	601,801,259	-231,793,143 (-27.8%)
	Total healthcare costs (£)	1,041,438,095	1,032,904,660	-8,533,435 (-0.8%)
	ICER (Δ £/ Δ QALY)	.	.	-112
50	N	449,232	449,232	0
	Incident MIs	63,479	52,092	-11,387 (-17.9%)
	Deaths	150,573	146,386	-4,187 (-2.8%)
	YLL	14,381,598	14,415,626	34,028 (0.24%)
	QALYs	11,541,164	11,580,766	39,602 (0.34%)
	Medication costs (£)	92,528,787	265,516,427	172,987,641 (187.0%)
	Acute MI costs (£)	106,392,600	87,338,982	-19,053,618 (-17.9%)
	Chronic MI costs (£)	721,213,437	603,300,114	-117,913,323 (-16.3%)
	Total healthcare costs (£)	920,134,824	956,155,523	36,020,700 (3.9%)
	ICER (Δ £/ Δ QALY)	.	.	910
60	N	433,159	433,159	0
	Incident MIs	55,431	50,206	-5,225 (-9.4%)
	Deaths	138,299	136,400	-1,899 (-1.4%)
	YLL	9,787,001	9,797,768	10,767 (0.11%)
	QALYs	7,647,684	7,660,045	12,361 (0.16%)
	Medication costs (£)	82,480,135	180,579,243	98,099,108 (118.9%)
	Acute MI costs (£)	91,438,515	82,917,038	-8,521,477 (-9.3%)
	Chronic MI costs (£)	516,800,842	475,046,329	-41,754,513 (-8.1%)
	Total healthcare costs (£)	690,719,493	738,542,610	47,823,117 (6.9%)
	ICER (Δ £/ Δ QALY)	.	.	3,869

Table 10.2: Microsimulation results – High intensity statins. Scenario 1: discounting rate set at 0%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	36,017	-31,875 (-46.9%)
	Deaths	157,629	147,711	-9,918 (-6.3%)
	YLL	23,630,327	23,715,481	85,154 (0.36%)
	QALYs	19,832,113	19,947,787	115,674 (0.58%)
	Medication costs (£)	96,239,794	650,195,209	553,955,415 (575.6%)
	Acute MI costs (£)	114,594,697	60,799,497	-53,795,199 (-46.9%)
	Chronic MI costs (£)	882,406,160	480,006,562	-402,399,598 (-45.6%)
	Total healthcare costs (£)	1,093,240,651	1,191,001,268	97,760,617 (8.9%)
	ICER (Δ £/ Δ QALY)	.	.	845
40	N	456,009	456,009	0
	Incident MIs	66,741	42,244	-24,497 (-36.7%)
	Deaths	155,616	147,357	-8,259 (-5.3%)
	YLL	19,010,855	19,086,855	76,000 (0.40%)
	QALYs	15,625,357	15,718,743	93,385 (0.60%)
	Medication costs (£)	95,353,631	523,413,466	428,059,836 (448.9%)
	Acute MI costs (£)	112,490,062	71,375,737	-41,114,325 (-36.5%)
	Chronic MI costs (£)	833,594,402	545,574,116	-288,020,286 (-34.6%)
	Total healthcare costs (£)	1,041,438,095	1,140,363,319	98,925,224 (9.5%)
	ICER (Δ £/ Δ QALY)	.	.	1,059
50	N	449,232	449,232	0
	Incident MIs	63,479	47,953	-15,526 (-24.5%)
	Deaths	150,573	144,854	-5,719 (-3.8%)
	YLL	14,381,598	14,425,802	44,204 (0.31%)
	QALYs	11,541,164	11,592,848	51,684 (0.45%)
	Medication costs (£)	92,528,787	395,737,949	303,209,162 (327.7%)
	Acute MI costs (£)	106,392,600	80,533,887	-25,858,713 (-24.3%)
	Chronic MI costs (£)	721,213,437	564,211,446	-157,001,991 (-21.8%)
	Total healthcare costs (£)	920,134,824	1,040,483,283	120,348,459 (13.1%)
	ICER (Δ £/ Δ QALY)	.	.	2,329
60	N	433,159	433,159	0
	Incident MIs	55,431	47,478	-7,953 (-14.3%)
	Deaths	138,299	135,348	-2,951 (-2.1%)
	YLL	9,787,001	9,803,423	16,422 (0.17%)
	QALYs	7,647,684	7,666,269	18,586 (0.24%)
	Medication costs (£)	82,480,135	269,108,974	186,628,839 (226.3%)
	Acute MI costs (£)	91,438,515	78,557,496	-12,881,019 (-14.1%)
	Chronic MI costs (£)	516,800,842	455,096,325	-61,704,518 (-11.9%)
	Total healthcare costs (£)	690,719,493	802,762,794	112,043,302 (16.2%)
	ICER (Δ £/ Δ QALY)	.	.	6,029

Table 10.3: Microsimulation results – Low/moderate intensity statins and ezetimibe. Scenario 1: discounting rate set at 0%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	33,306	-34,586 (-50.9%)
	Deaths	157,629	146,803	-10,826 (-6.9%)
	YLL	23,630,327	23,723,269	92,943 (0.39%)
	QALYs	19,832,113	19,957,675	125,562 (0.63%)
	Medication costs (£)	96,239,794	1,170,925,345	1,074,685,551 (1116.7%)
	Acute MI costs (£)	114,594,697	56,238,050	-58,356,647 (-50.9%)
	Chronic MI costs (£)	882,406,160	448,091,266	-434,314,894 (-49.2%)
	Total healthcare costs (£)	1,093,240,651	1,675,254,661	582,014,009 (53.2%)
	ICER (Δ £/ Δ QALY)	.	.	4,635
40	N	456,009	456,009	0
	Incident MIs	66,741	39,856	-26,885 (-40.3%)
	Deaths	155,616	146,543	-9,073 (-5.8%)
	YLL	19,010,855	19,093,539	82,684 (0.43%)
	QALYs	15,625,357	15,726,926	101,569 (0.65%)
	Medication costs (£)	95,353,631	942,626,730	847,273,100 (888.6%)
	Acute MI costs (£)	112,490,062	67,465,498	-45,024,564 (-40.0%)
	Chronic MI costs (£)	833,594,402	519,898,863	-313,695,539 (-37.6%)
	Total healthcare costs (£)	1,041,438,095	1,529,991,091	488,552,996 (46.9%)
	ICER (Δ £/ Δ QALY)	.	.	4,810
50	N	449,232	449,232	0
	Incident MIs	63,479	45,979	-17,500 (-27.6%)
	Deaths	150,573	144,109	-6,464 (-4.3%)
	YLL	14,381,598	14,431,066	49,468 (0.34%)
	QALYs	11,541,164	11,598,944	57,780 (0.50%)
	Medication costs (£)	92,528,787	712,703,470	620,174,683 (670.3%)
	Acute MI costs (£)	106,392,600	77,335,252	-29,057,348 (-27.3%)
	Chronic MI costs (£)	721,213,437	545,611,583	-175,601,854 (-24.3%)
	Total healthcare costs (£)	920,134,824	1,335,650,305	415,515,481 (45.2%)
	ICER (Δ £/ Δ QALY)	.	.	7,191
60	N	433,159	433,159	0
	Incident MIs	55,431	46,189	-9,242 (-16.7%)
	Deaths	138,299	134,877	-3,422 (-2.5%)
	YLL	9,787,001	9,806,170	19,169 (0.20%)
	QALYs	7,647,684	7,669,345	21,661 (0.28%)
	Medication costs (£)	82,480,135	484,610,222	402,130,086 (487.5%)
	Acute MI costs (£)	91,438,515	76,474,194	-14,964,321 (-16.4%)
	Chronic MI costs (£)	516,800,842	445,161,205	-71,639,637 (-13.9%)
	Total healthcare costs (£)	690,719,493	1,006,245,621	315,526,128 (45.7%)
	ICER (Δ £/ Δ QALY)	.	.	14,566

Table 10.4: Microsimulation results – Inclisiran. Scenario 1: discounting rate set at 0%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	35,163	-32,729 (-48.2%)
	Deaths	157,629	147,423	-10,206 (-6.5%)
	YLL	23,630,327	23,717,656	87,329 (0.37%)
	QALYs	19,832,113	19,950,721	118,608 (0.60%)
	Medication costs (£)	96,239,794	94,362,193,894	94,265,954,099 (97949.0%)
	Acute MI costs (£)	114,594,697	59,349,920	-55,244,777 (-48.2%)
	Chronic MI costs (£)	882,406,160	469,642,810	-412,763,350 (-46.8%)
	Total healthcare costs (£)	1,093,240,651	94,891,186,623	93,797,945,972 (8579.8%)
	ICER (Δ £/ Δ QALY)	.	.	790,823
40	N	456,009	456,009	0
	Incident MIs	66,741	41,519	-25,222 (-37.8%)
	Deaths	155,616	147,106	-8,510 (-5.5%)
	YLL	19,010,855	19,088,741	77,886 (0.41%)
	QALYs	15,625,357	15,721,086	95,729 (0.61%)
	Medication costs (£)	95,353,631	75,963,022,941	75,867,669,310 (79564.5%)
	Acute MI costs (£)	112,490,062	70,193,620	-42,296,442 (-37.6%)
	Chronic MI costs (£)	833,594,402	537,962,185	-295,632,218 (-35.5%)
	Total healthcare costs (£)	1,041,438,095	76,571,178,745	75,529,740,650 (7252.4%)
	ICER (Δ £/ Δ QALY)	.	.	788,996
50	N	449,232	449,232	0
	Incident MIs	63,479	47,366	-16,113 (-25.4%)
	Deaths	150,573	144,632	-5,941 (-3.9%)
	YLL	14,381,598	14,427,365	45,767 (0.32%)
	QALYs	11,541,164	11,594,693	53,529 (0.46%)
	Medication costs (£)	92,528,787	57,434,011,801	57,341,483,015 (61971.5%)
	Acute MI costs (£)	106,392,600	79,578,899	-26,813,701 (-25.2%)
	Chronic MI costs (£)	721,213,437	558,506,199	-162,707,238 (-22.6%)
	Total healthcare costs (£)	920,134,824	58,072,096,899	57,151,962,076 (6211.3%)
	ICER (Δ £/ Δ QALY)	.	.	1,067,690
60	N	433,159	433,159	0
	Incident MIs	55,431	47,055	-8,376 (-15.1%)
	Deaths	138,299	135,198	-3,101 (-2.2%)
	YLL	9,787,001	9,804,516	17,514 (0.18%)
	QALYs	7,647,684	7,667,444	19,761 (0.26%)
	Medication costs (£)	82,480,135	39,056,287,642	38,973,807,506 (47252.4%)
	Acute MI costs (£)	91,438,515	77,866,078	-13,572,437 (-14.8%)
	Chronic MI costs (£)	516,800,842	451,696,766	-65,104,076 (-12.6%)
	Total healthcare costs (£)	690,719,493	39,585,850,486	38,895,130,994 (5631.1%)
	ICER (Δ £/ Δ QALY)	.	.	1,968,324

Table 10.5: Microsimulation results – Low/moderate intensity statins. Scenario 2: discounting rate set at 1.5%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	42,009	-25,883 (-38.1%)
	Deaths	157,629	149,711	-7,918 (-5.0%)
	YLL	16,395,273	16,429,013	33,741 (0.21%)
	QALYs	13,980,084	14,028,997	48,912 (0.35%)
	Medication costs (£)	51,993,133	302,551,321	250,558,188 (481.9%)
	Acute MI costs (£)	64,178,811	39,766,413	-24,412,398 (-38.0%)
	Chronic MI costs (£)	484,487,064	303,949,448	-180,537,616 (-37.3%)
	Total healthcare costs (£)	600,659,008	646,267,182	45,608,174 (7.6%)
	ICER (Δ £/ Δ QALY)	.	.	932
40	N	456,009	456,009	0
	Incident MIs	66,741	47,405	-19,336 (-29.0%)
	Deaths	155,616	149,064	-6,552 (-4.2%)
	YLL	14,059,547	14,096,000	36,453 (0.26%)
	QALYs	11,695,697	11,741,479	45,782 (0.39%)
	Medication costs (£)	59,645,901	259,644,734	199,998,833 (335.3%)
	Acute MI costs (£)	72,241,932	51,586,808	-20,655,124 (-28.6%)
	Chronic MI costs (£)	523,520,060	380,061,414	-143,458,647 (-27.4%)
	Total healthcare costs (£)	655,407,893	691,292,956	35,885,063 (5.5%)
	ICER (Δ £/ Δ QALY)	.	.	784
50	N	449,232	449,232	0
	Incident MIs	63,479	52,092	-11,387 (-17.9%)
	Deaths	150,573	146,386	-4,187 (-2.8%)
	YLL	11,349,168	11,371,721	22,553 (0.20%)
	QALYs	9,182,996	9,209,771	26,775 (0.29%)
	Medication costs (£)	66,673,710	209,539,013	142,865,304 (214.3%)
	Acute MI costs (£)	77,328,243	63,826,639	-13,501,604 (-17.5%)
	Chronic MI costs (£)	511,974,069	430,007,929	-81,966,140 (-16.0%)
	Total healthcare costs (£)	655,976,022	703,373,581	47,397,560 (7.2%)
	ICER (Δ £/ Δ QALY)	.	.	1,770
60	N	433,159	433,159	0
	Incident MIs	55,431	50,206	-5,225 (-9.4%)
	Deaths	138,299	136,400	-1,899 (-1.4%)
	YLL	8,248,516	8,256,534	8,018 (0.10%)
	QALYs	6,476,281	6,485,615	9,333 (0.14%)
	Medication costs (£)	67,326,656	152,235,956	84,909,300 (126.1%)
	Acute MI costs (£)	73,763,307	67,100,840	-6,662,468 (-9.0%)
	Chronic MI costs (£)	408,418,436	376,233,489	-32,184,947 (-7.9%)
	Total healthcare costs (£)	549,508,400	595,570,285	46,061,885 (8.4%)
	ICER (Δ £/ Δ QALY)	.	.	4,935

Table 10.6: Microsimulation results – High intensity statins. Scenario 2: discounting rate set at 1.5%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	36,017	-31,875 (-46.9%)
	Deaths	157,629	147,711	-9,918 (-6.3%)
	YLL	16,395,273	16,438,048	42,776 (0.26%)
	QALYs	13,980,084	14,040,638	60,553 (0.43%)
	Medication costs (£)	51,993,133	450,866,322	398,873,190 (767.2%)
	Acute MI costs (£)	64,178,811	34,333,957	-29,844,854 (-46.5%)
	Chronic MI costs (£)	484,487,064	266,418,314	-218,068,750 (-45.0%)
	Total healthcare costs (£)	600,659,008	751,618,593	150,959,586 (25.1%)
	ICER (Δ £/ Δ QALY)	.	.	2,493
40	N	456,009	456,009	0
	Incident MIs	66,741	42,244	-24,497 (-36.7%)
	Deaths	155,616	147,357	-8,259 (-5.3%)
	YLL	14,059,547	14,103,758	44,211 (0.31%)
	QALYs	11,695,697	11,751,567	55,871 (0.48%)
	Medication costs (£)	59,645,901	386,926,443	327,280,542 (548.7%)
	Acute MI costs (£)	72,241,932	46,280,499	-25,961,432 (-35.9%)
	Chronic MI costs (£)	523,520,060	345,743,411	-177,776,650 (-34.0%)
	Total healthcare costs (£)	655,407,893	778,950,353	123,542,460 (18.8%)
	ICER (Δ £/ Δ QALY)	.	.	2,211
50	N	449,232	449,232	0
	Incident MIs	63,479	47,953	-15,526 (-24.5%)
	Deaths	150,573	144,854	-5,719 (-3.8%)
	YLL	11,349,168	11,378,385	29,217 (0.26%)
	QALYs	9,182,996	9,217,856	34,860 (0.38%)
	Medication costs (£)	66,673,710	312,269,188	245,595,478 (368.4%)
	Acute MI costs (£)	77,328,243	59,077,760	-18,250,483 (-23.6%)
	Chronic MI costs (£)	511,974,069	403,151,398	-108,822,671 (-21.3%)
	Total healthcare costs (£)	655,976,022	774,498,346	118,522,324 (18.1%)
	ICER (Δ £/ Δ QALY)	.	.	3,400
60	N	433,159	433,159	0
	Incident MIs	55,431	47,478	-7,953 (-14.3%)
	Deaths	138,299	135,348	-2,951 (-2.1%)
	YLL	8,248,516	8,260,734	12,218 (0.15%)
	QALYs	6,476,281	6,490,294	14,012 (0.22%)
	Medication costs (£)	67,326,656	226,854,713	159,528,056 (236.9%)
	Acute MI costs (£)	73,763,307	63,729,263	-10,034,044 (-13.6%)
	Chronic MI costs (£)	408,418,436	360,962,519	-47,455,917 (-11.6%)
	Total healthcare costs (£)	549,508,400	651,546,495	102,038,095 (18.6%)
	ICER (Δ £/ Δ QALY)	.	.	7,282

Table 10.7: Microsimulation results – Low/moderate intensity statins and ezetimibe. Scenario 2: discounting rate set at 1.5%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	33,306	-34,586 (-50.9%)
	Deaths	157,629	146,803	-10,826 (-6.9%)
	YLL	16,395,273	16,441,975	46,702 (0.28%)
	QALYs	13,980,084	14,045,805	65,721 (0.47%)
	Medication costs (£)	51,993,133	811,884,684	759,891,551 (1461.5%)
	Acute MI costs (£)	64,178,811	31,844,985	-32,333,826 (-50.4%)
	Chronic MI costs (£)	484,487,064	249,233,434	-235,253,630 (-48.6%)
	Total healthcare costs (£)	600,659,008	1,092,963,103	492,304,095 (82.0%)
	ICER (Δ £/ Δ QALY)	.	.	7,491
40	N	456,009	456,009	0
	Incident MIs	66,741	39,856	-26,885 (-40.3%)
	Deaths	155,616	146,543	-9,073 (-5.8%)
	YLL	14,059,547	14,107,632	48,085 (0.34%)
	QALYs	11,695,697	11,756,445	60,749 (0.52%)
	Medication costs (£)	59,645,901	696,771,613	637,125,712 (1068.2%)
	Acute MI costs (£)	72,241,932	43,847,064	-28,394,867 (-39.3%)
	Chronic MI costs (£)	523,520,060	329,998,749	-193,521,311 (-37.0%)
	Total healthcare costs (£)	655,407,893	1,070,617,427	415,209,534 (63.4%)
	ICER (Δ £/ Δ QALY)	.	.	6,835
50	N	449,232	449,232	0
	Incident MIs	63,479	45,979	-17,500 (-27.6%)
	Deaths	150,573	144,109	-6,464 (-4.3%)
	YLL	11,349,168	11,381,838	32,670 (0.29%)
	QALYs	9,182,996	9,221,936	38,940 (0.42%)
	Medication costs (£)	66,673,710	562,345,998	495,672,288 (743.4%)
	Acute MI costs (£)	77,328,243	56,838,591	-20,489,652 (-26.5%)
	Chronic MI costs (£)	511,974,069	390,354,514	-121,619,555 (-23.8%)
	Total healthcare costs (£)	655,976,022	1,009,539,103	353,563,081 (53.9%)
	ICER (Δ £/ Δ QALY)	.	.	9,080
60	N	433,159	433,159	0
	Incident MIs	55,431	46,189	-9,242 (-16.7%)
	Deaths	138,299	134,877	-3,422 (-2.5%)
	YLL	8,248,516	8,262,784	14,268 (0.17%)
	QALYs	6,476,281	6,492,617	16,335 (0.25%)
	Medication costs (£)	67,326,656	408,505,841	341,179,185 (506.8%)
	Acute MI costs (£)	73,763,307	62,107,624	-11,655,683 (-15.8%)
	Chronic MI costs (£)	408,418,436	353,327,358	-55,091,078 (-13.5%)
	Total healthcare costs (£)	549,508,400	823,940,823	274,432,424 (49.9%)
	ICER (Δ £/ Δ QALY)	.	.	16,800

Table 10.8: Microsimulation results – Inclisiran. Scenario 2: discounting rate set at 1.5%

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	67,892	35,163	-32,729 (-48.2%)
	Deaths	157,629	147,423	-10,206 (-6.5%)
	YLL	16,395,273	16,439,132	43,860 (0.27%)
	QALYs	13,980,084	14,042,166	62,082 (0.44%)
	Medication costs (£)	51,993,133	65,432,106,146	65,380,113,014 (125747.6%)
	Acute MI costs (£)	64,178,811	33,542,776	-30,636,035 (-47.7%)
	Chronic MI costs (£)	484,487,064	260,832,675	-223,654,389 (-46.2%)
	Total healthcare costs (£)	600,659,008	65,726,481,597	65,125,822,589 (10842.4%)
	ICER (Δ £/ Δ QALY)	.	.	1,049,031
40	N	456,009	456,009	0
	Incident MIs	66,741	41,519	-25,222 (-37.8%)
	Deaths	155,616	147,106	-8,510 (-5.5%)
	YLL	14,059,547	14,104,844	45,297 (0.32%)
	QALYs	11,695,697	11,752,957	57,260 (0.49%)
	Medication costs (£)	59,645,901	56,153,429,011	56,093,783,110 (94044.7%)
	Acute MI costs (£)	72,241,932	45,549,947	-26,691,985 (-36.9%)
	Chronic MI costs (£)	523,520,060	341,096,880	-182,423,180 (-34.8%)
	Total healthcare costs (£)	655,407,893	56,540,075,838	55,884,667,945 (8526.7%)
	ICER (Δ £/ Δ QALY)	.	.	975,975
50	N	449,232	449,232	0
	Incident MIs	63,479	47,366	-16,113 (-25.4%)
	Deaths	150,573	144,632	-5,941 (-3.9%)
	YLL	11,349,168	11,379,412	30,244 (0.27%)
	QALYs	9,182,996	9,219,095	36,098 (0.39%)
	Medication costs (£)	66,673,710	45,319,254,613	45,252,580,903 (67871.7%)
	Acute MI costs (£)	77,328,243	58,406,427	-18,921,816 (-24.5%)
	Chronic MI costs (£)	511,974,069	399,206,297	-112,767,772 (-22.0%)
	Total healthcare costs (£)	655,976,022	45,776,867,338	45,120,891,316 (6878.4%)
	ICER (Δ £/ Δ QALY)	.	.	1,249,939
60	N	433,159	433,159	0
	Incident MIs	55,431	47,055	-8,376 (-15.1%)
	Deaths	138,299	135,198	-3,101 (-2.2%)
	YLL	8,248,516	8,261,555	13,039 (0.16%)
	QALYs	6,476,281	6,491,186	14,905 (0.23%)
	Medication costs (£)	67,326,656	32,923,453,614	32,856,126,958 (48801.1%)
	Acute MI costs (£)	73,763,307	63,185,581	-10,577,726 (-14.3%)
	Chronic MI costs (£)	408,418,436	358,334,321	-50,084,115 (-12.3%)
	Total healthcare costs (£)	549,508,400	33,344,973,517	32,795,465,117 (5968.1%)
	ICER (Δ £/ Δ QALY)	.	.	2,200,348

Table 10.9: Microsimulation results – Low/moderate intensity statins. Scenario 3: Interventions decrease in efficacy at 1% per year.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	68,931	53,130	-15,801 (-22.9%)
	Deaths	158,043	153,468	-4,575 (-2.9%)
	YLL	10,959,279	10,967,283	8,004 (0.07%)
	QALYs	9,514,401	9,528,124	13,723 (0.14%)
	Medication costs (£)	23,859,562	202,110,094	178,250,532 (747.1%)
	Acute MI costs (£)	32,022,751	24,358,949	-7,663,802 (-23.9%)
	Chronic MI costs (£)	232,253,597	175,118,974	-57,134,623 (-24.6%)
	Total healthcare costs (£)	288,135,910	401,588,017	113,452,108 (39.4%)
	ICER (Δ £/ Δ QALY)	.	.	8,267
40	N	456,009	456,009	0
	Incident MIs	67,780	55,875	-11,905 (-17.6%)
	Deaths	156,030	151,936	-4,094 (-2.6%)
	YLL	9,971,595	9,984,529	12,935 (0.13%)
	QALYs	8,413,711	8,430,613	16,902 (0.20%)
	Medication costs (£)	33,117,618	184,034,797	150,917,178 (455.7%)
	Acute MI costs (£)	42,733,462	35,060,710	-7,672,752 (-18.0%)
	Chronic MI costs (£)	296,902,874	243,032,113	-53,870,761 (-18.1%)
	Total healthcare costs (£)	372,753,955	462,127,620	89,373,665 (24.0%)
	ICER (Δ £/ Δ QALY)	.	.	5,288
50	N	449,232	449,232	0
	Incident MIs	64,518	57,788	-6,730 (-10.4%)
	Deaths	150,987	148,336	-2,651 (-1.8%)
	YLL	8,590,255	8,599,436	9,181 (0.11%)
	QALYs	7,020,845	7,031,988	11,143 (0.16%)
	Medication costs (£)	44,387,841	158,556,696	114,168,855 (257.2%)
	Acute MI costs (£)	53,163,555	47,732,369	-5,431,186 (-10.2%)
	Chronic MI costs (£)	337,821,211	303,889,193	-33,932,018 (-10.0%)
	Total healthcare costs (£)	435,372,607	510,178,258	74,805,651 (17.2%)
	ICER (Δ £/ Δ QALY)	.	.	6,713
60	N	433,149	433,149	0
	Incident MIs	56,460	53,568	-2,892 (-5.1%)
	Deaths	138,705	137,733	-972 (-0.7%)
	YLL	6,701,410	6,704,341	2,931 (0.04%)
	QALYs	5,292,880	5,296,544	3,664 (0.07%)
	Medication costs (£)	52,378,325	123,691,112	71,312,786 (136.1%)
	Acute MI costs (£)	57,495,564	54,696,794	-2,798,770 (-4.9%)
	Chronic MI costs (£)	307,995,791	294,113,009	-13,882,782 (-4.5%)
	Total healthcare costs (£)	417,869,680	472,500,915	54,631,235 (13.1%)
	ICER (Δ £/ Δ QALY)	.	.	14,909

Table 10.10: Microsimulation results – High intensity statins. Scenario 3: Interventions decrease in efficacy at 1% per year.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	68,931	48,668	-20,263 (-29.4%)
	Deaths	158,043	152,051	-5,992 (-3.8%)
	YLL	10,959,279	10,969,867	10,588 (0.10%)
	QALYs	9,514,401	9,531,802	17,401 (0.18%)
	Medication costs (£)	23,859,562	301,092,830	277,233,268 (1161.9%)
	Acute MI costs (£)	32,022,751	22,434,544	-9,588,207 (-29.9%)
	Chronic MI costs (£)	232,253,597	162,144,467	-70,109,130 (-30.2%)
	Total healthcare costs (£)	288,135,910	485,671,840	197,535,931 (68.6%)
	ICER (Δ £/ Δ QALY)	.	.	11,352
40	N	456,009	456,009	0
	Incident MIs	67,780	52,016	-15,764 (-23.3%)
	Deaths	156,030	150,653	-5,377 (-3.4%)
	YLL	9,971,595	9,987,666	16,071 (0.16%)
	QALYs	8,413,711	8,434,783	21,072 (0.25%)
	Medication costs (£)	33,117,618	274,186,663	241,069,045 (727.9%)
	Acute MI costs (£)	42,733,462	32,839,529	-9,893,933 (-23.2%)
	Chronic MI costs (£)	296,902,874	228,930,208	-67,972,666 (-22.9%)
	Total healthcare costs (£)	372,753,955	535,956,399	163,202,445 (43.8%)
	ICER (Δ £/ Δ QALY)	.	.	7,745
50	N	449,232	449,232	0
	Incident MIs	64,518	54,775	-9,743 (-15.1%)
	Deaths	150,987	147,283	-3,704 (-2.5%)
	YLL	8,590,255	8,602,329	12,074 (0.14%)
	QALYs	7,020,845	7,035,618	14,773 (0.21%)
	Medication costs (£)	44,387,841	236,233,012	191,845,172 (432.2%)
	Acute MI costs (£)	53,163,555	45,503,759	-7,659,797 (-14.4%)
	Chronic MI costs (£)	337,821,211	291,485,474	-46,335,737 (-13.7%)
	Total healthcare costs (£)	435,372,607	573,222,245	137,849,638 (31.7%)
	ICER (Δ £/ Δ QALY)	.	.	9,331
60	N	433,149	433,149	0
	Incident MIs	56,460	51,503	-4,957 (-8.8%)
	Deaths	138,705	136,911	-1,794 (-1.3%)
	YLL	6,701,410	6,706,529	5,118 (0.08%)
	QALYs	5,292,880	5,299,060	6,180 (0.12%)
	Medication costs (£)	52,378,325	184,285,014	131,906,689 (251.8%)
	Acute MI costs (£)	57,495,564	52,813,124	-4,682,441 (-8.1%)
	Chronic MI costs (£)	307,995,791	285,559,329	-22,436,462 (-7.3%)
	Total healthcare costs (£)	417,869,680	522,657,467	104,787,786 (25.1%)
	ICER (Δ £/ Δ QALY)	.	.	16,957

Table 10.11: Microsimulation results – Low/moderate intensity statins and ezetimibe. Scenario 3: Interventions decrease in efficacy at 1% per year.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	68,931	46,669	-22,262 (-32.3%)
	Deaths	158,043	151,388	-6,655 (-4.2%)
	YLL	10,959,279	10,971,050	11,771 (0.11%)
	QALYs	9,514,401	9,533,507	19,106 (0.20%)
	Medication costs (£)	23,859,562	542,113,374	518,253,812 (2172.1%)
	Acute MI costs (£)	32,022,751	21,551,349	-10,471,402 (-32.7%)
	Chronic MI costs (£)	232,253,597	156,052,815	-76,200,782 (-32.8%)
	Total healthcare costs (£)	288,135,910	719,717,539	431,581,629 (149.8%)
	ICER (Δ £/ Δ QALY)	.	.	22,589
40	N	456,009	456,009	0
	Incident MIs	67,780	50,263	-17,517 (-25.8%)
	Deaths	156,030	150,056	-5,974 (-3.8%)
	YLL	9,971,595	9,988,995	17,400 (0.17%)
	QALYs	8,413,711	8,436,620	22,909 (0.27%)
	Medication costs (£)	33,117,618	493,681,629	460,564,011 (1390.7%)
	Acute MI costs (£)	42,733,462	31,821,455	-10,912,007 (-25.5%)
	Chronic MI costs (£)	296,902,874	222,366,312	-74,536,562 (-25.1%)
	Total healthcare costs (£)	372,753,955	747,869,397	375,115,442 (100.6%)
	ICER (Δ £/ Δ QALY)	.	.	16,374
50	N	449,232	449,232	0
	Incident MIs	64,518	53,327	-11,191 (-17.3%)
	Deaths	150,987	146,759	-4,228 (-2.8%)
	YLL	8,590,255	8,603,706	13,452 (0.16%)
	QALYs	7,020,845	7,037,374	16,529 (0.24%)
	Medication costs (£)	44,387,841	425,356,333	380,968,493 (858.3%)
	Acute MI costs (£)	53,163,555	44,412,705	-8,750,851 (-16.5%)
	Chronic MI costs (£)	337,821,211	285,338,578	-52,482,633 (-15.5%)
	Total healthcare costs (£)	435,372,607	755,107,616	319,735,009 (73.4%)
	ICER (Δ £/ Δ QALY)	.	.	19,344
60	N	433,149	433,149	0
	Incident MIs	56,460	50,505	-5,955 (-10.5%)
	Deaths	138,705	136,534	-2,171 (-1.6%)
	YLL	6,701,410	6,707,651	6,241 (0.09%)
	QALYs	5,292,880	5,300,325	7,445 (0.14%)
	Medication costs (£)	52,378,325	331,822,198	279,443,873 (533.5%)
	Acute MI costs (£)	57,495,564	51,913,961	-5,581,604 (-9.7%)
	Chronic MI costs (£)	307,995,791	281,486,665	-26,509,126 (-8.6%)
	Total healthcare costs (£)	417,869,680	665,222,824	247,353,143 (59.2%)
	ICER (Δ £/ Δ QALY)	.	.	33,226

Table 10.12: Microsimulation results – Inclisiran. Scenario 3: Interventions decrease in efficacy at 1% per year.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	68,931	40,990	-27,941 (-40.5%)
	Deaths	158,043	149,461	-8,582 (-5.4%)
	YLL	10,959,279	10,974,932	15,653 (0.14%)
	QALYs	9,514,401	9,538,614	24,213 (0.25%)
	Medication costs (£)	23,859,562	43,713,441,058	43,689,581,496 (183111.4%)
	Acute MI costs (£)	32,022,751	19,110,635	-12,912,116 (-40.3%)
	Chronic MI costs (£)	232,253,597	139,890,865	-92,362,732 (-39.8%)
	Total healthcare costs (£)	288,135,910	43,872,442,559	43,584,306,649 (15126.3%)
	ICER (Δ £/ Δ QALY)	.	.	1,800,056
40	N	456,009	456,009	0
	Incident MIs	67,780	45,553	-22,227 (-32.8%)
	Deaths	156,030	148,538	-7,492 (-4.8%)
	YLL	9,971,595	9,992,548	20,954 (0.21%)
	QALYs	8,413,711	8,441,400	27,689 (0.33%)
	Medication costs (£)	33,117,618	39,808,206,534	39,775,088,916 (120102.5%)
	Acute MI costs (£)	42,733,462	29,131,122	-13,602,340 (-31.8%)
	Chronic MI costs (£)	296,902,874	205,668,005	-91,234,869 (-30.7%)
	Total healthcare costs (£)	372,753,955	40,043,005,661	39,670,251,707 (10642.5%)
	ICER (Δ £/ Δ QALY)	.	.	1,432,698
50	N	449,232	449,232	0
	Incident MIs	64,518	49,883	-14,635 (-22.7%)
	Deaths	150,987	145,616	-5,371 (-3.6%)
	YLL	8,590,255	8,606,916	16,662 (0.19%)
	QALYs	7,020,845	7,041,359	20,514 (0.29%)
	Medication costs (£)	44,387,841	34,299,361,483	34,254,973,642 (77172.0%)
	Acute MI costs (£)	53,163,555	41,889,962	-11,273,593 (-21.2%)
	Chronic MI costs (£)	337,821,211	271,727,000	-66,094,211 (-19.6%)
	Total healthcare costs (£)	435,372,607	34,612,978,445	34,177,605,838 (7850.2%)
	ICER (Δ £/ Δ QALY)	.	.	1,666,038
60	N	433,149	433,149	0
	Incident MIs	56,460	48,306	-8,154 (-14.4%)
	Deaths	138,705	135,665	-3,040 (-2.2%)
	YLL	6,701,410	6,710,095	8,685 (0.13%)
	QALYs	5,292,880	5,303,049	10,169 (0.19%)
	Medication costs (£)	52,378,325	26,756,830,221	26,704,451,896 (50983.8%)
	Acute MI costs (£)	57,495,564	49,966,968	-7,528,596 (-13.1%)
	Chronic MI costs (£)	307,995,791	272,755,817	-35,239,974 (-11.4%)
	Total healthcare costs (£)	417,869,680	27,079,553,005	26,661,683,325 (6380.4%)
	ICER (Δ £/ Δ QALY)	.	.	2,621,841

Table 10.13: Microsimulation results – Low/moderate intensity statins. Scenario 4: 40% of people stop taking therapy immediately.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	69,943	58,968	-10,975 (-15.7%)
	Deaths	158,432	155,415	-3,017 (-1.9%)
	YLL	10,958,924	10,963,480	4,557 (0.04%)
	QALYs	9,513,981	9,522,948	8,967 (0.09%)
	Medication costs (£)	19,122,395	121,195,767	102,073,372 (533.8%)
	Acute MI costs (£)	32,334,650	26,902,455	-5,432,194 (-16.8%)
	Chronic MI costs (£)	233,637,948	192,318,898	-41,319,050 (-17.7%)
	Total healthcare costs (£)	285,094,992	340,417,121	55,322,129 (19.4%)
	ICER (Δ £/ Δ QALY)	.	.	6,169
40	N	456,009	456,009	0
	Incident MIs	68,792	60,842	-7,950 (-11.6%)
	Deaths	156,419	153,535	-2,884 (-1.8%)
	YLL	9,971,094	9,980,566	9,472 (0.09%)
	QALYs	8,413,126	8,425,460	12,334 (0.15%)
	Medication costs (£)	26,435,377	110,348,785	83,913,408 (317.4%)
	Acute MI costs (£)	43,173,426	37,866,449	-5,306,976 (-12.3%)
	Chronic MI costs (£)	298,855,638	260,204,124	-38,651,514 (-12.9%)
	Total healthcare costs (£)	368,464,440	408,419,358	39,954,918 (10.8%)
	ICER (Δ £/ Δ QALY)	.	.	3,239
50	N	449,232	449,232	0
	Incident MIs	65,530	61,481	-4,049 (-6.2%)
	Deaths	151,376	149,627	-1,749 (-1.2%)
	YLL	8,589,549	8,596,165	6,617 (0.08%)
	QALYs	7,020,027	7,027,765	7,738 (0.11%)
	Medication costs (£)	34,976,346	95,117,744	60,141,398 (171.9%)
	Acute MI costs (£)	53,784,167	50,415,450	-3,368,717 (-6.3%)
	Chronic MI costs (£)	340,575,777	318,943,827	-21,631,951 (-6.4%)
	Total healthcare costs (£)	429,336,290	464,477,021	35,140,731 (8.2%)
	ICER (Δ £/ Δ QALY)	.	.	4,541
60	N	433,144	433,144	0
	Incident MIs	57,466	55,888	-1,578 (-2.7%)
	Deaths	139,093	138,603	-490 (-0.4%)
	YLL	6,700,345	6,701,920	1,575 (0.02%)
	QALYs	5,291,693	5,293,705	2,012 (0.04%)
	Medication costs (£)	40,122,732	74,217,710	34,094,978 (85.0%)
	Acute MI costs (£)	58,361,570	56,796,892	-1,564,678 (-2.7%)
	Chronic MI costs (£)	311,788,751	303,961,038	-7,827,714 (-2.5%)
	Total healthcare costs (£)	410,273,054	434,975,640	24,702,586 (6.0%)
	ICER (Δ £/ Δ QALY)	.	.	12,276

Table 10.14: Microsimulation results – High intensity statins. Scenario 4: 40% of people stop taking therapy immediately.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	69,943	55,593	-14,350 (-20.5%)
	Deaths	158,432	154,349	-4,083 (-2.6%)
	YLL	10,958,924	10,965,360	6,436 (0.06%)
	QALYs	9,513,981	9,525,676	11,695 (0.12%)
	Medication costs (£)	19,122,395	180,560,020	161,437,625 (844.2%)
	Acute MI costs (£)	32,334,650	25,442,583	-6,892,067 (-21.3%)
	Chronic MI costs (£)	233,637,948	182,447,860	-51,190,088 (-21.9%)
	Total healthcare costs (£)	285,094,992	388,450,463	103,355,471 (36.3%)
	ICER (Δ £/ Δ QALY)	.	.	8,837
40	N	456,009	456,009	0
	Incident MIs	68,792	57,971	-10,821 (-15.7%)
	Deaths	156,419	152,542	-3,877 (-2.5%)
	YLL	9,971,094	9,982,930	11,836 (0.12%)
	QALYs	8,413,126	8,428,579	15,454 (0.18%)
	Medication costs (£)	26,435,377	164,417,842	137,982,465 (522.0%)
	Acute MI costs (£)	43,173,426	36,221,453	-6,951,973 (-16.1%)
	Chronic MI costs (£)	298,855,638	249,780,411	-49,075,227 (-16.4%)
	Total healthcare costs (£)	368,464,440	450,419,706	81,955,266 (22.2%)
	ICER (Δ £/ Δ QALY)	.	.	5,303
50	N	449,232	449,232	0
	Incident MIs	65,530	59,196	-6,334 (-9.7%)
	Deaths	151,376	148,817	-2,559 (-1.7%)
	YLL	8,589,549	8,598,427	8,879 (0.10%)
	QALYs	7,020,027	7,030,571	10,544 (0.15%)
	Medication costs (£)	34,976,346	141,729,975	106,753,629 (305.2%)
	Acute MI costs (£)	53,784,167	48,709,930	-5,074,237 (-9.4%)
	Chronic MI costs (£)	340,575,777	309,523,805	-31,051,972 (-9.1%)
	Total healthcare costs (£)	429,336,290	499,963,711	70,627,421 (16.5%)
	ICER (Δ £/ Δ QALY)	.	.	6,699
60	N	433,144	433,144	0
	Incident MIs	57,466	54,349	-3,117 (-5.4%)
	Deaths	139,093	137,988	-1,105 (-0.8%)
	YLL	6,700,345	6,703,592	3,247 (0.05%)
	QALYs	5,291,693	5,295,601	3,909 (0.07%)
	Medication costs (£)	40,122,732	110,585,370	70,462,638 (175.6%)
	Acute MI costs (£)	58,361,570	55,392,487	-2,969,083 (-5.1%)
	Chronic MI costs (£)	311,788,751	297,653,227	-14,135,525 (-4.5%)
	Total healthcare costs (£)	410,273,054	463,631,084	53,358,030 (13.0%)
	ICER (Δ £/ Δ QALY)	.	.	13,650

Table 10.15: Microsimulation results – Low/moderate intensity statins and ezetimibe. Scenario 4: 40% of people stop taking therapy immediately.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	69,943	54,067	-15,876 (-22.7%)
	Deaths	158,432	153,846	-4,586 (-2.9%)
	YLL	10,958,924	10,966,272	7,349 (0.07%)
	QALYs	9,513,981	9,526,987	13,007 (0.14%)
	Medication costs (£)	19,122,395	325,105,768	305,983,373 (1600.1%)
	Acute MI costs (£)	32,334,650	24,769,787	-7,564,862 (-23.4%)
	Chronic MI costs (£)	233,637,948	177,788,281	-55,849,667 (-23.9%)
	Total healthcare costs (£)	285,094,992	527,663,836	242,568,844 (85.1%)
	ICER (Δ £/ Δ QALY)	.	.	18,650
40	N	456,009	456,009	0
	Incident MIs	68,792	56,672	-12,120 (-17.6%)
	Deaths	156,419	152,108	-4,311 (-2.8%)
	YLL	9,971,094	9,983,882	12,788 (0.13%)
	QALYs	8,413,126	8,429,967	16,841 (0.20%)
	Medication costs (£)	26,435,377	296,047,072	269,611,695 (1019.9%)
	Acute MI costs (£)	43,173,426	35,438,499	-7,734,927 (-17.9%)
	Chronic MI costs (£)	298,855,638	244,535,299	-54,320,339 (-18.2%)
	Total healthcare costs (£)	368,464,440	576,020,869	207,556,429 (56.3%)
	ICER (Δ £/ Δ QALY)	.	.	12,324
50	N	449,232	449,232	0
	Incident MIs	65,530	58,095	-7,435 (-11.3%)
	Deaths	151,376	148,395	-2,981 (-2.0%)
	YLL	8,589,549	8,599,541	9,993 (0.12%)
	QALYs	7,020,027	7,031,965	11,938 (0.17%)
	Medication costs (£)	34,976,346	255,210,295	220,233,949 (629.7%)
	Acute MI costs (£)	53,784,167	47,877,918	-5,906,250 (-11.0%)
	Chronic MI costs (£)	340,575,777	304,812,069	-35,763,708 (-10.5%)
	Total healthcare costs (£)	429,336,290	607,900,282	178,563,991 (41.6%)
	ICER (Δ £/ Δ QALY)	.	.	14,957
60	N	433,144	433,144	0
	Incident MIs	57,466	53,606	-3,860 (-6.7%)
	Deaths	139,093	137,714	-1,379 (-1.0%)
	YLL	6,700,345	6,704,373	4,028 (0.06%)
	QALYs	5,291,693	5,296,511	4,819 (0.09%)
	Medication costs (£)	40,122,732	199,124,489	159,001,756 (396.3%)
	Acute MI costs (£)	58,361,570	54,710,541	-3,651,029 (-6.3%)
	Chronic MI costs (£)	311,788,751	294,531,212	-17,257,539 (-5.5%)
	Total healthcare costs (£)	410,273,054	548,366,242	138,093,188 (33.7%)
	ICER (Δ £/ Δ QALY)	.	.	28,658

Table 10.16: Microsimulation results – Inclisiran. Scenario 4: 40% of people stop taking therapy immediately.

Age of intervention	Outcome	Control	Intervention	
			Absolute value	Difference to control
30	N	458,692	458,692	0
	Incident MIs	69,943	55,157	-14,786 (-21.1%)
	Deaths	158,432	154,175	-4,257 (-2.7%)
	YLL	10,958,924	10,965,637	6,713 (0.06%)
	QALYs	9,513,981	9,526,053	12,072 (0.13%)
	Medication costs (£)	19,122,395	26,203,199,276	26,184,076,881 (136928.9%)
	Acute MI costs (£)	32,334,650	25,253,259	-7,081,390 (-21.9%)
	Chronic MI costs (£)	233,637,948	181,173,242	-52,464,706 (-22.5%)
	Total healthcare costs (£)	285,094,992	26,409,625,777	26,124,530,785 (9163.4%)
	ICER (Δ £/ Δ QALY)	.	.	2,163,993
40	N	456,009	456,009	0
	Incident MIs	68,792	57,594	-11,198 (-16.3%)
	Deaths	156,419	152,414	-4,005 (-2.6%)
	YLL	9,971,094	9,983,230	12,136 (0.12%)
	QALYs	8,413,126	8,429,001	15,876 (0.19%)
	Medication costs (£)	26,435,377	23,860,806,813	23,834,371,437 (90160.9%)
	Acute MI costs (£)	43,173,426	35,995,653	-7,177,773 (-16.6%)
	Chronic MI costs (£)	298,855,638	248,256,417	-50,599,221 (-16.9%)
	Total healthcare costs (£)	368,464,440	24,145,058,883	23,776,594,442 (6452.9%)
	ICER (Δ £/ Δ QALY)	.	.	1,497,676
50	N	449,232	449,232	0
	Incident MIs	65,530	58,886	-6,644 (-10.1%)
	Deaths	151,376	148,702	-2,674 (-1.8%)
	YLL	8,589,549	8,598,769	9,220 (0.11%)
	QALYs	7,020,027	7,030,985	10,958 (0.16%)
	Medication costs (£)	34,976,346	20,568,607,984	20,533,631,639 (58707.2%)
	Acute MI costs (£)	53,784,167	48,476,986	-5,307,181 (-9.9%)
	Chronic MI costs (£)	340,575,777	308,212,733	-32,363,045 (-9.5%)
	Total healthcare costs (£)	429,336,290	20,925,297,703	20,495,961,413 (4773.9%)
	ICER (Δ £/ Δ QALY)	.	.	1,870,453
60	N	433,144	433,144	0
	Incident MIs	57,466	54,114	-3,352 (-5.8%)
	Deaths	139,093	137,897	-1,196 (-0.9%)
	YLL	6,700,345	6,703,838	3,493 (0.05%)
	QALYs	5,291,693	5,295,885	4,193 (0.08%)
	Medication costs (£)	40,122,732	16,048,658,228	16,008,535,496 (39898.9%)
	Acute MI costs (£)	58,361,570	55,174,266	-3,187,304 (-5.5%)
	Chronic MI costs (£)	311,788,751	296,689,570	-15,099,181 (-4.8%)
	Total healthcare costs (£)	410,273,054	16,400,522,064	15,990,249,011 (3897.5%)
	ICER (Δ £/ Δ QALY)	.	.	3,813,926

Table 10.17: Microsimulation results – Summary of all interventions. Scenario 1: discounting rate set at 0%. All results shown are the difference between the intervention and control.

Age of intervention	Outcome	Low/moderate intensity statins	High intensity statins	Low/moderate intensity statins and ezetimibe	Inclisiran
30	Incident MIs	-25,883 (-38.1%)	-31,875 (-46.9%)	-34,586 (-50.9%)	-32,729 (-48.2%)
	QALYs	93,374 (0.47%)	115,674 (0.58%)	125,562 (0.63%)	118,608 (0.60%)
	Total healthcare costs (£)	-36,453,099 (-3.3%)	97,760,617 (8.9%)	582,014,009 (53.2%)	93,797,945,972 (8579.8%)
	ICER (Δ £/ Δ QALY)	-390	845	4,635	790,823
40	Incident MIs	-19,336 (-29.0%)	-24,497 (-36.7%)	-26,885 (-40.3%)	-25,222 (-37.8%)
	QALYs	76,402 (0.49%)	93,385 (0.60%)	101,569 (0.65%)	95,729 (0.61%)
	Total healthcare costs (£)	-8,533,435 (-0.8%)	98,925,224 (9.5%)	488,552,996 (46.9%)	75,529,740,650 (7252.4%)
	ICER (Δ £/ Δ QALY)	-112	1,059	4,810	788,996
50	Incident MIs	-11,387 (-17.9%)	-15,526 (-24.5%)	-17,500 (-27.6%)	-16,113 (-25.4%)
	QALYs	39,602 (0.34%)	51,684 (0.45%)	57,780 (0.50%)	53,529 (0.46%)
	Total healthcare costs (£)	36,020,700 (3.9%)	120,348,459 (13.1%)	415,515,481 (45.2%)	57,151,962,076 (6211.3%)
	ICER (Δ £/ Δ QALY)	910	2,329	7,191	1,067,690
60	Incident MIs	-5,225 (-9.4%)	-7,953 (-14.3%)	-9,242 (-16.7%)	-8,376 (-15.1%)
	QALYs	12,361 (0.16%)	18,586 (0.24%)	21,661 (0.28%)	19,761 (0.26%)
	Total healthcare costs (£)	47,823,117 (6.9%)	112,043,302 (16.2%)	315,526,128 (45.7%)	38,895,130,994 (5631.1%)
	ICER (Δ £/ Δ QALY)	3,869	6,029	14,566	1,968,324

Table 10.18: Microsimulation results – Summary of all interventions. Scenario 2: discounting rate set at 1.5%. All results shown are the difference between the intervention and control.

Age of intervention	Outcome	Low/moderate intensity statins	High intensity statins	Low/moderate intensity statins and ezetimibe	Inclisiran
30	Incident MIs	-25,883 (-38.1%)	-31,875 (-46.9%)	-34,586 (-50.9%)	-32,729 (-48.2%)
	QALYs	48,912 (0.35%)	60,553 (0.43%)	65,721 (0.47%)	62,082 (0.44%)
	Total healthcare costs (£)	45,608,174 (7.6%)	150,959,586 (25.1%)	492,304,095 (82.0%)	65,125,822,589 (10842.4%)
	ICER (Δ £/ Δ QALY)	932	2,493	7,491	1,049,031
40	Incident MIs	-19,336 (-29.0%)	-24,497 (-36.7%)	-26,885 (-40.3%)	-25,222 (-37.8%)
	QALYs	45,782 (0.39%)	55,871 (0.48%)	60,749 (0.52%)	57,260 (0.49%)
	Total healthcare costs (£)	35,885,063 (5.5%)	123,542,460 (18.8%)	415,209,534 (63.4%)	55,884,667,945 (8526.7%)
	ICER (Δ £/ Δ QALY)	784	2,211	6,835	975,975
50	Incident MIs	-11,387 (-17.9%)	-15,526 (-24.5%)	-17,500 (-27.6%)	-16,113 (-25.4%)
	QALYs	26,775 (0.29%)	34,860 (0.38%)	38,940 (0.42%)	36,098 (0.39%)
	Total healthcare costs (£)	47,397,560 (7.2%)	118,522,324 (18.1%)	353,563,081 (53.9%)	45,120,891,316 (6878.4%)
	ICER (Δ £/ Δ QALY)	1,770	3,400	9,080	1,249,939
60	Incident MIs	-5,225 (-9.4%)	-7,953 (-14.3%)	-9,242 (-16.7%)	-8,376 (-15.1%)
	QALYs	9,333 (0.14%)	14,012 (0.22%)	16,335 (0.25%)	14,905 (0.23%)
	Total healthcare costs (£)	46,061,885 (8.4%)	102,038,095 (18.6%)	274,432,424 (49.9%)	32,795,465,117 (5968.1%)
	ICER (Δ £/ Δ QALY)	4,935	7,282	16,800	2,200,348

Table 10.19: Microsimulation results – Summary of all interventions. Scenario 3: Interventions decrease in efficacy at 1% per year. All results shown are the difference between the intervention and control.

Age of intervention	Outcome	Low/moderate intensity statins	High intensity statins	Low/moderate intensity statins and ezetimibe	Inclisiran
30	Incident MIs	-15,801 (-22.9%)	-20,263 (-29.4%)	-22,262 (-32.3%)	-27,941 (-40.5%)
	QALYs	13,723 (0.14%)	17,401 (0.18%)	19,106 (0.20%)	24,213 (0.25%)
	Total healthcare costs (£)	113,452,108 (39.4%)	197,535,931 (68.6%)	431,581,629 (149.8%)	43,584,306,649 (15126.3%)
	ICER (Δ £/ Δ QALY)	8,267	11,352	22,589	1,800,056
40	Incident MIs	-11,905 (-17.6%)	-15,764 (-23.3%)	-17,517 (-25.8%)	-22,227 (-32.8%)
	QALYs	16,902 (0.20%)	21,072 (0.25%)	22,909 (0.27%)	27,689 (0.33%)
	Total healthcare costs (£)	89,373,665 (24.0%)	163,202,445 (43.8%)	375,115,442 (100.6%)	39,670,251,707 (10642.5%)
	ICER (Δ £/ Δ QALY)	5,288	7,745	16,374	1,432,698
50	Incident MIs	-6,730 (-10.4%)	-9,743 (-15.1%)	-11,191 (-17.3%)	-14,635 (-22.7%)
	QALYs	11,143 (0.16%)	14,773 (0.21%)	16,529 (0.24%)	20,514 (0.29%)
	Total healthcare costs (£)	74,805,651 (17.2%)	137,849,638 (31.7%)	319,735,009 (73.4%)	34,177,605,838 (7850.2%)
	ICER (Δ £/ Δ QALY)	6,713	9,331	19,344	1,666,038
60	Incident MIs	-2,892 (-5.1%)	-4,957 (-8.8%)	-5,955 (-10.5%)	-8,154 (-14.4%)
	QALYs	3,664 (0.07%)	6,180 (0.12%)	7,445 (0.14%)	10,169 (0.19%)
	Total healthcare costs (£)	54,631,235 (13.1%)	104,787,786 (25.1%)	247,353,143 (59.2%)	26,661,683,325 (6380.4%)
	ICER (Δ £/ Δ QALY)	14,909	16,957	33,226	2,621,841

Table 10.20: Microsimulation results – Summary of all interventions. Scenario 4: 40% of people stop taking therapy immediately. All results shown are the difference between the intervention and control.

Age of intervention	Outcome	Low/moderate intensity statins	High intensity statins	Low/moderate intensity statins and ezetimibe	Inclisiran
30	Incident MIs	-10,975 (-15.7%)	-14,350 (-20.5%)	-15,876 (-22.7%)	-14,786 (-21.1%)
	QALYs	8,967 (0.09%)	11,695 (0.12%)	13,007 (0.14%)	12,072 (0.13%)
	Total healthcare costs (£)	55,322,129 (19.4%)	103,355,471 (36.3%)	242,568,844 (85.1%)	26,124,530,785 (9163.4%)
	ICER (Δ £/ Δ QALY)	6,169	8,837	18,650	2,163,993
40	Incident MIs	-7,950 (-11.6%)	-10,821 (-15.7%)	-12,120 (-17.6%)	-11,198 (-16.3%)
	QALYs	12,334 (0.15%)	15,454 (0.18%)	16,841 (0.20%)	15,876 (0.19%)
	Total healthcare costs (£)	39,954,918 (10.8%)	81,955,266 (22.2%)	207,556,429 (56.3%)	23,776,594,442 (6452.9%)
	ICER (Δ £/ Δ QALY)	3,239	5,303	12,324	1,497,676
50	Incident MIs	-4,049 (-6.2%)	-6,334 (-9.7%)	-7,435 (-11.3%)	-6,644 (-10.1%)
	QALYs	7,738 (0.11%)	10,544 (0.15%)	11,938 (0.17%)	10,958 (0.16%)
	Total healthcare costs (£)	35,140,731 (8.2%)	70,627,421 (16.5%)	178,563,991 (41.6%)	20,495,961,413 (4773.9%)
	ICER (Δ £/ Δ QALY)	4,541	6,699	14,957	1,870,453
60	Incident MIs	-1,578 (-2.7%)	-3,117 (-5.4%)	-3,860 (-6.7%)	-3,352 (-5.8%)
	QALYs	2,012 (0.04%)	3,909 (0.07%)	4,819 (0.09%)	4,193 (0.08%)
	Total healthcare costs (£)	24,702,586 (6.0%)	53,358,030 (13.0%)	138,093,188 (33.7%)	15,990,249,011 (3897.5%)
	ICER (Δ £/ Δ QALY)	12,276	13,650	28,658	3,813,926

11 Threshold analysis

Finally, given that Inclisiran was not even close to cost-effective in any analysis so far, it seems necessary to perform a threshold analysis to estimate the maximum annual cost at which Inclisiran would be cost-effective. Recall that the willingness-to-pay threshold in the UK is a range, from £20,000 to £30,000; thus, I will conduct the threshold analysis at both thresholds. The analysis is exactly the same as before, yet instead of using a fixed cost for Inclisiran, I will estimate the ICER at all costs from £10 to £1,000 (in increments of £1), and present the maximum annual cost at which the ICER is under each threshold. Additionally, because the 0% discounting results above were so different from the primary analysis (and out of personal interest/to be as generous as possible), I will estimate the maximum cost using 0% discounting and the £30,000 willingness-to-pay threshold.

```
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.035)^((age-`i´))) if age >= `i´
}
forval i = 10(1)1000 {
forval ii = 30(10)60 {
gen cost = DC_`ii´*`i´/10
replace cost = 0 if age < `ii´
gen double ICcost_`i´_`ii´ = sum(cost)
drop cost
}
}
tostring age, replace force format(%9.1f)
destring age, replace
keep age ICcost_10_30-ICcost_1000_60
save ICcost_Matrix, replace
clear
set obs 551
gen age = (_n+299)/10
forval i = 30(10)60 {
gen DC_`i´ = 1/((1.0)^((age-`i´))) if age >= `i´
}
forval i = 10(1)1000 {
forval ii = 30(10)60 {
gen cost = DC_`ii´*`i´/10
replace cost = 0 if age < `ii´
gen double ICcost_`i´_`ii´ = sum(cost)
drop cost
}
}
keep age ICcost_10_30-ICcost_1000_60
tostring age, replace force format(%9.1f)
destring age, replace
save ICcost_Matrix_DC0, replace
forval i = 30(10)60 {
use trial_4_`i´, clear
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge m:1 age using ICcost_Matrix
drop if _merge == 2
drop _merge
keep if age >= `i´ & MIage >= `i´
su(ICcost_10_`i´)
matrix B = (`i´,10,r(sum))
forval iii = 11/1000 {
su(ICcost_`iii´_`i´)
matrix B = (B\0`i´,0`iii´,r(sum))
```

```
}
clear
svmat double B
rename (B1 B2 B3) (A1 A2 A7)
save ICthreshcosts_`i´, replace
}
forval i = 30(10)60 {
use trial_4_`i´, clear
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge m:1 age using ICcost_Matrix_DC0
drop if _merge == 2
drop _merge
keep if age >= `i´ & MIage >= `i´
su(ICcost_10_`i´)
matrix B = (`i´,10,r(sum))
forval iii = 11/1000 {
su(ICcost_`iii´_`i´)
matrix B = (B\0`i´,0`iii´,r(sum))
}
clear
svmat double B
rename (B1 B2 B3) (A1 A2 A7)
save ICthreshcosts_`i´_DC0, replace
}

use reshof0, clear
keep A1 A2 A3 A7
drop if A2 == 10
append using ///
ICthreshcosts_30 ///
ICthreshcosts_40 ///
ICthreshcosts_50 ///
ICthreshcosts_60
bysort A1 (A2) : gen double AMIC = A7[7]
bysort A1 (A2) : gen double CMIC = A7[8]
bysort A1 (A2) : gen double RHCC = A3[9]
gen double THCC = A7+AMIC+CMIC if A2 >= 10
gen double DHCC = THCC-RHCC
bysort A1 (A2) : gen double DQLY = A7[5]-A3[5]
gen ICER = DHCC/DQLY
gen A = 1 if (ICER < 20000 & ICER[_n+1] >= 20000 & ICER[_n+1]!=.)
gen B = 1 if (ICER < 30000 & ICER[_n+1] >= 30000 & ICER[_n+1]!=.)
keep if A == 1 | B == 1
sort A A1
use reshof0_SCE1, clear
keep A1 A2 A3 A7
drop if A2 == 10
append using ///
ICthreshcosts_30_DC0 ///
ICthreshcosts_40_DC0 ///
ICthreshcosts_50_DC0 ///
ICthreshcosts_60_DC0
bysort A1 (A2) : gen double AMIC = A7[7]
bysort A1 (A2) : gen double CMIC = A7[8]
bysort A1 (A2) : gen double RHCC = A3[9]
gen double THCC = A7+AMIC+CMIC if A2 >= 10
gen double DHCC = THCC-RHCC
bysort A1 (A2) : gen double DQLY = A7[5]-A3[5]
gen ICER = DHCC/DQLY
gen A = 1 if (ICER < 20000 & ICER[_n+1] >= 20000 & ICER[_n+1]!=.)
gen B = 1 if (ICER < 30000 & ICER[_n+1] >= 30000 & ICER[_n+1]!=.)
keep if A == 1 | B == 1
sort A A1
```

So the maximum annual costs, in the overall population, that Inclisiran would be cost-effective at the £20,000 and £30,000 willingness-to-pay thresholds when intervening from different ages are:

- Age 30: £63 at £20,000 and £88 at £30,000
- Age 40: £74 at £20,000 and £104 at £30,000
- Age 50: £65 at £20,000 and £90 at £30,000
- Age 60: £45 at £20,000 and £60 at £30,000

And for 0% discounting:

- Age 30: £123 at £20,000 and £173 at £30,000
- Age 40: £122 at £20,000 and £172 at £30,000
- Age 50: £93 at £20,000 and £130 at £30,000
- Age 60: £56 at £20,000 and £76 at £30,000

As usual, it's a good idea to stratify by sex and LDL-C.

```
quietly {
forval s = 0/1 {
foreach l in 0 3 4 5 {
forval i = 30(10)60 {
use trial_4_`i´, clear
merge 1:1 eid using UKBldl
drop if _merge == 2
drop _merge
keep if ldl >= `l´
keep if sex == `s´
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge m:1 age using ICcost_Matrix
drop if _merge == 2
drop _merge
keep if age >= `i´ & MIage >= `i´
su(ICcost_10_`i´)
matrix B = (`i´,10,r(sum))
forval iii = 11/1000 {
su(ICcost_`iii´_`i´)
matrix B = (B\0`i´,0`iii´,r(sum))
}
clear
svmat double B
rename (B1 B2 B3) (A1 A2 A7)
save ICthreshcosts_`i´_sex_`s´_ldl_`l´, replace
}
forval i = 30(10)60 {
use trial_4_`i´, clear
merge 1:1 eid using UKBldl
drop if _merge == 2
drop _merge
keep if ldl >= `l´
keep if sex == `s´
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge m:1 age using ICcost_Matrix_DC0
```

```
drop if _merge == 2
drop _merge
keep if age >= `i´ & MIage >= `i´
su(ICcost_10_`i´)
matrix B = (`i´,10,r(sum))
forval iii = 11/1000 {
su(ICcost_`iii´_`i´)
matrix B = (B\0`i´,0`iii´,r(sum))
}
clear
svmat double B
rename (B1 B2 B3) (A1 A2 A7)
save ICthreshcosts_`i´_sex_`s´_ldl_`l´_DC0, replace
}
}
}
forval s = 0/1 {
foreach l in 0 3 4 5 {
use trial_control, clear
merge 1:1 eid using UKBldl
drop if _merge == 2
drop _merge
keep if ldl >= `l´
keep if sex == `s´
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge 1:1 eid using agellt_control
drop if _merge == 2
drop _merge
merge m:1 age using YLL_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage sex using QALY_nMI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using QALY_MI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage using ACcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 agellt MIage using STcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHSTcost_Matrix_DC0
drop if _merge == 2
drop _merge
forval i = 30(10)60 {
recode QALY_MI_`i´ .=0
recode ACMIcost_`i´ .=0
recode CHMIcost_`i´ .=0
recode STcost_`i´ .=0
recode CHSTcost_`i´ .=0
replace ACMIcost_`i´ = 0 if MI==0
replace ACMIcost_`i´ = ACMIcost_`i´*0.18 if MI == 1 & durn == 0
gen double QALY_`i´ = QALY_nMI_`i´ + QALY_MI_`i´
gen double MDcost_`i´ = STcost_`i´ + CHSTcost_`i´
gen double HCcost_`i´ = ACMIcost_`i´+ CHMIcost_`i´ + MDcost_`i´
}
forval i = 30(10)60 {
preserve
keep if age >= `i´ & MIage >= `i´
count
```

```
matrix A_0_`i´ = r(N)
count if MI == 1
matrix A_0_`i´ = (A_0_`i´\r(N))
count if Death == 1
matrix A_0_`i´ = (A_0_`i´\r(N))
su(YLL_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(QALY_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(MDcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(ACMIcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(CHMIcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
su(HCcost_`i´)
matrix A_0_`i´ = (A_0_`i´\r(sum))
restore
}
forval i = 30(10)60 {
forval ii = 1/4 {
use trial_`ii´_`i´, clear
merge 1:1 eid using UKBldl
drop if _merge == 2
drop _merge
keep if ldl >= `l´
keep if sex == `s´
gen MIage = round(age-durn,0.1)
replace age = round(age,0.1)
tostring age MIage, replace force format(%9.1f)
destring age MIage, replace
merge m:1 age using YLL_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage sex using QALY_nMI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using QALY_MI_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 MIage using ACcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age MIage sex using CHcost_Matrix_DC0
drop if _merge == 2
drop _merge
merge m:1 age using INTcost_Matrix_`ii´_DC0
drop if _merge == 2
drop _merge
recode QALY_MI_`i´ .=0
recode CHMIcost_`i´ .=0
recode ACMIcost_`i´ .=0
replace ACMIcost_`i´ = 0 if MI==0
replace ACMIcost_`i´ = ACMIcost_`i´*0.18 if MI == 1 & durn == 0
gen double QALY_`i´ = QALY_nMI_`i´ + QALY_MI_`i´
gen double HCcost_`i´ = ACMIcost_`i´+ CHMIcost_`i´ + MDcost_`i´
keep if age >= `i´ & MIage >= `i´
count
matrix A_`ii´_`i´ = r(N)
count if MI == 1
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(N))
count if Death == 1
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(N))
su(YLL_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(QALY_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(MDcost_`i´)
```

```
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(ACMIcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(CHMIcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
su(HCcost_`i´)
matrix A_`ii´_`i´ = (A_`ii´_`i´\r(sum))
}
}
matrix AA = (1\2\3\4\5\6\7\8\9)
matrix A = (J(9,1,30),AA,A_0_30,A_1_30,A_2_30,A_3_30,A_4_30\ ///
30,10,J(1,5,.)\ ///
J(9,1,40),AA,A_0_40,A_1_40,A_2_40,A_3_40,A_4_40\ ///
40,10,J(1,5,.)\ ///
J(9,1,50),AA,A_0_50,A_1_50,A_2_50,A_3_50,A_4_50\ ///
50,10,J(1,5,.)\ ///
J(9,1,60),AA,A_0_60,A_1_60,A_2_60,A_3_60,A_4_60\ ///
60,10,J(1,5,.))
clear
svmat double A
gen double D1 = A4-A3
gen double D2 = A5-A3
gen double D3 = A6-A3
gen double D4 = A7-A3
save reshof0_sex_`s´_ldl_`l´_DC0, replace
}
}
forval s = 0/1 {
foreach l in 0 3 4 5 {
use reshof0_sex_`s´_ldl_`l´, clear
keep A1 A2 A3 A7
drop if A2 == 10
append using ///
ICthreshcosts_30_sex_`s´_ldl_`l´ ///
ICthreshcosts_40_sex_`s´_ldl_`l´ ///
ICthreshcosts_50_sex_`s´_ldl_`l´ ///
ICthreshcosts_60_sex_`s´_ldl_`l´
bysort A1 (A2) : gen double AMIC = A7[7]
bysort A1 (A2) : gen double CMIC = A7[8]
bysort A1 (A2) : gen double RHCC = A3[9]
gen double THCC = A7+AMIC+CMIC if A2 >= 10
gen double DHCC = THCC-RHCC
bysort A1 (A2) : gen double DQLY = A7[5]-A3[5]
gen ICER = DHCC/DQLY
gen A = 1 if (ICER < 20000 & ICER[_n+1] >= 20000 & ICER[_n+1]!=.)
gen B = 1 if (ICER < 30000 & ICER[_n+1] >= 30000 & ICER[_n+1]!=.)
keep if A == 1 | B == 1
sort A A1
rename A2 cost
keep A1 cost A B
gen sex = `s´
gen ldl = `l´
gen dc = 3.5
save Treshres_sex`s´_ldl`l´, replace
use reshof0_sex_`s´_ldl_`l´_DC0, clear
keep A1 A2 A3 A7
drop if A2 == 10
append using ///
ICthreshcosts_30_sex_`s´_ldl_`l´_DC0 ///
ICthreshcosts_40_sex_`s´_ldl_`l´_DC0 ///
ICthreshcosts_50_sex_`s´_ldl_`l´_DC0 ///
ICthreshcosts_60_sex_`s´_ldl_`l´_DC0
bysort A1 (A2) : gen double AMIC = A7[7]
bysort A1 (A2) : gen double CMIC = A7[8]
bysort A1 (A2) : gen double RHCC = A3[9]
gen double THCC = A7+AMIC+CMIC if A2 >= 10
gen double DHCC = THCC-RHCC
bysort A1 (A2) : gen double DQLY = A7[5]-A3[5]
```

```
gen ICER = DHCC/DQLY
gen A = 1 if (ICER < 20000 & ICER[_n+1] >= 20000 & ICER[_n+1]!=.)
gen B = 1 if (ICER < 30000 & ICER[_n+1] >= 30000 & ICER[_n+1]!=.)
keep if A == 1 | B == 1
sort A A1
rename A2 cost
keep A1 cost A B
gen sex = `s´
gen ldl = `l´
gen dc = 0
save Treshres_sex`s´_ldl`l´_DC0, replace
}
}
clear
forval s = 0/1 {
foreach l in 0 3 4 5 {
append using Treshres_sex`s´_ldl`l´
append using Treshres_sex`s´_ldl`l´_DC0
}
}
gen WTP = 20000 if A == 1
recode WTP .=30000
drop A B
replace dc = dc*-1
reshape wide cost, i(dc WTP sex A) j(ldl)
replace dc = dc*-1
tostring A1 sex, gen(A11 sex1)
tostring cost0-cost5, replace format(%9.0f)
tostring dc, gen(dc1) format(%9.1f)
tostring WTP, gen(WTP1) format(%9.0fc) force
replace dc1 = dc1+ "\%"
replace dc = dc*-1
order dc1 WTP1 sex1 A11
bysort dc (WTP sex A1) : replace dc1 ="" if _n !=1
bysort dc WTP (sex A1) : replace WTP1 ="" if _n !=1
bysort dc WTP sex (A1) : replace sex1 ="" if _n !=1
replace sex1 = "Female" if sex1 == "0"
replace sex1 = "Male" if sex1 == "1"
drop A1-WTP
export delimited using CSV/Treshres.csv, delimiter(":") novarnames replace
}
```

So, even in the highest risk groups, and under the most generous scenario, the maximum cost-effective price of Inclisiran doesn't approach the current price. Moreover, given that all other interventions in this study were cost-effective, the comparator here is probably wrong (i.e., it should probably be one of the interventions), which would make Inclisiran even less cost-effective.

Table 11.1: Maximum annual cost of Inclisiran (£) at which the ICER is under the UK willingness-to-pay (WTP) threshold, by discounting rate, WTP threshold, sex, and LDL-C.

Discounting rate	WTP threshold (£)	Sex	Age of intervention	Overall	LDL-C ≥3.0 mmol/L	LDL-C ≥4.0 mmol/L	LDL-C ≥5.0 mmol/L
3.5%	20,000	Female	30	34	46	62	120
			40	43	54	77	124
			50	37	42	62	76
			60	31	36	50	67
		Male	30	98	123	183	273
			40	113	136	197	318
			50	102	122	162	225
			60	63	74	101	100
	30,000	Female	30	48	64	87	168
			40	60	75	108	174
			50	50	57	85	102
			60	41	48	66	88
		Male	30	137	173	259	387
			40	159	192	279	451
			50	143	172	228	316
			60	85	102	138	135
0.0%	20,000	Female	30	70	91	125	229
			40	74	91	131	201
			50	54	62	93	109
			60	39	46	63	83
		Male	30	190	238	348	513
			40	184	221	317	502
			50	144	174	226	303
			60	79	94	126	123
	30,000	Female	30	98	128	175	324
			40	103	128	184	282
			50	74	86	128	146
			60	53	61	84	111
		Male	30	268	338	495	730
			40	260	313	451	715
			50	203	246	319	428
			60	108	130	174	169

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