```
                                                          ___  ___  ___  ___  ___(R)
                                                         /__    /    __/ /    __/
                                                        ___/   /   /__/ /   /__/
                                                          Statistics/Data analysis
```

```
1 .
2 . use  "E:\16GBBACKUPUSB\BACKUP_USB_SEPTEMBER2014\SUMMER_STUDENT_2025\HRS_NHANES_HANDLS_FRAILTY_EPICLOCKS_MORT\FI

3 .
4 .
5 .
6 . foreach m of varlist zHorvathAgeEAA zHannumAgeEAA zDunedinPoAm zPhenoAgeEAA zGrimAgeMortEAA  {
    2. med4way frailty_status `m' zAGE_NHANES SEX NHB HISP OTHER zses  if sample_final==1 & COHORT_COMP==1 , a0(0)
    3. }
  Warning: this analysis assumes a rare outcome.
  Warning: fixed values for the covariates zAGE_NHANES SEX NHB HISP OTHER zses were not provided. All covariates a
```

  -> Summary

```
    Outcome    (yvar):  TIMEyears
    Exposure   (avar):  frailty_status
    Mediator   (mvar):  zHorvathAgeEAA
    Covariates (cvars): zAGE_NHANES SEX NHB HISP OTHER zses

    Model for the outcome  (yreg): cox
    Model for the mediator (mreg): linear

    Referent exposure level (a0):          0
    Actual exposure level    (a1):         1
    Mediator level for the decomposition (m): 0
    Fixed values of the covariates (c):    6.3e-10 .499 .2004 .3429 .03253 -3.9e-10
```

  -> Model for the outcome

```
        Failure _d: DIED==1
  Analysis time _t: TIMEyears
       ID variable: ID
            Weight: [pweight=sampling_weight]
```

```
(sum of wgt is 40,617,231.784653)
Iteration 0:  Log pseudolikelihood = -6256.1069
Iteration 1:  Log pseudolikelihood = -5917.7068
Iteration 2:  Log pseudolikelihood = -5913.6977
Iteration 3:  Log pseudolikelihood = -5913.6818
Iteration 4:  Log pseudolikelihood = -5913.6818
Refining estimates:
Iteration 0:  Log pseudolikelihood = -5913.6818

Cox regression with Breslow method for ties
```

No. of subjects = 40,617,232		Number of obs = 1,537
No. of failures = 23,957,268		
Time at risk = 553706396.8		
		Wald chi2(9) = 390.88
Log pseudolikelihood = -5913.6818		Prob > chi2 = 0.0000

(Std. err. adjusted for **1,537** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	**1.787829**	**.1897018**	**5.48**	**0.000**	**1.452136**	**2.201125**
zHorvathAgeEAA	**1.119903**	**.0645026**	**1.97**	**0.049**	**1.000355**	**1.253738**
_frailty_statXzHorvathAgeE_000	**.8897857**	**.1065605**	**-0.98**	**0.330**	**.7036323**	**1.125188**
zAGE_NHANES	**2.228701**	**.1078962**	**16.55**	**0.000**	**2.026951**	**2.450531**
SEX	**.5359558**	**.0498193**	**-6.71**	**0.000**	**.4466901**	**.6430603**
NHB	**.9971073**	**.1110622**	**-0.03**	**0.979**	**.8015513**	**1.240373**
HISP	**.6476965**	**.0951329**	**-2.96**	**0.003**	**.4856776**	**.8637639**
OTHER	**.7453543**	**.1717289**	**-1.28**	**0.202**	**.4745116**	**1.170789**
zses	**.7585226**	**.0390744**	**-5.37**	**0.000**	**.6856774**	**.8391067**

-> Model for the mediator

Iteration 0: Log likelihood = **-2172.3631**
Iteration 1: Log likelihood = **-2172.3631**

Linear regression (Maximum Likelihood)

Number of obs = **1,537**
Wald chi2(**7**) = **32.42**

Log likelihood = **-2172.3631**

Prob > chi2 = **0.0000**

zHorvathAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.0999783	.0622612	1.61	0.108	-.0220515	.2220081
zAGE_NHANES	-.0526029	.0264609	-1.99	0.047	-.1044653	-.0007405
SEX	-.2066263	.0517102	-4.00	0.000	-.3079765	-.1052761
NHB	-.1958518	.072466	-2.70	0.007	-.3378826	-.0538209
HISP	-.2198656	.0674039	-3.26	0.001	-.3519748	-.0877564
OTHER	-.2983542	.1472423	-2.03	0.043	-.5869438	-.0097647
zses	-.0458256	.0293911	-1.56	0.119	-.1034311	.0117799
_cons	.2036977	.0511889	3.98	0.000	.1033692	.3040261
sigma2						
_cons	.9889419	.0356738	27.72	0.000	.9190227	1.058861

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	.7808444	.189146	4.13	0.000	.4101251	1.151564
ereri_cde	.7849575	.1890235	4.15	0.000	.4144782	1.155437
ereri_intref	-.003484	.0080815	-0.43	0.666	-.0193234	.0123554
ereri_intmed	-.0120152	.0210535	-0.57	0.568	-.0532793	.029249
ereri_pie	.0113861	.0092069	1.24	0.216	-.0066592	.0294314
terira	1.780844	.189146	9.42	0.000	1.410125	2.151564
p_cde	1.005267	.0192199	52.30	0.000	.9675973	1.042938
p_intref	-.0044618	.0104221	-0.43	0.669	-.0248887	.015965
p_intmed	-.0153874	.0273402	-0.56	0.574	-.0689733	.0381985
p_pie	.0145817	.0123465	1.18	0.238	-.009617	.0387805
op_m	-.0008057	.0242033	-0.03	0.973	-.0482433	.0466319
op_ati	-.0198492	.0244569	-0.81	0.417	-.0677839	.0280854
op_e	-.0052675	.0192198	-0.27	0.784	-.0429377	.0324027

    tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
    to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
    interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
    proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_NHANES SEX NHB HISP OTHER zses were not provided. All covariates ar

-> Summary

    Outcome   (yvar): **TIMEyears**
    Exposure   (avar): **frailty_status**
    Mediator   (mvar): **zHannumAgeEAA**
    Covariates (cvars): **zAGE_NHANES SEX NHB HISP OTHER zses**

    Model for the outcome (yreg): **cox**
    Model for the mediator (mreg): **linear**

    Referent exposure level (a0):   **0**
    Actual exposure level   (a1):   **1**
    Mediator level for the decomposition (m): **0**
    Fixed values of the covariates (c):   **6.3e-10 .499 .2004 .3429 .03253 -3.9e-10**

-> Model for the outcome

         Failure _d: **DIED==1**
  Analysis time _t: **TIMEyears**
        ID variable: **ID**
            Weight: **[pweight=sampling_weight]**

(sum of wgt is 40,617,231.784653)
Iteration 0: Log pseudolikelihood = **-6256.1069**
Iteration 1: Log pseudolikelihood = **-5912.8089**
Iteration 2: Log pseudolikelihood = **-5907.0769**
Iteration 3: Log pseudolikelihood = **-5907.0439**
Iteration 4: Log pseudolikelihood = **-5907.0439**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-5907.0439**

Cox regression with Breslow method for ties

No. of subjects = **40,617,232**   Number of obs = **1,537**
No. of failures = **23,957,268**
Time at risk   = 553706396.8

                                                Wald chi2(**9**) = **371.38**
Log pseudolikelihood = **-5907.0439**   Prob > chi2   = **0.0000**

                                        (Std. err. adjusted for **1,537** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	**1.72976**	.1882254	5.04	0.000	1.397532	2.140968
zHannumAgeEAA	**1.203048**	.0735217	3.02	0.002	1.067244	1.356133
_frailty_statXzHannumAgeEA_000	**.954627**	.1003967	-0.44	0.659	.7768089	1.173149
zAGE_NHANES	**2.216544**	.1089118	16.20	0.000	2.013037	2.440624
SEX	**.5679491**	.0542038	-5.93	0.000	.4710561	.6847724
NHB	**1.063058**	.1224616	0.53	0.596	.8482046	1.332334
HISP	**.6383969**	.0925334	-3.10	0.002	.4805206	.8481437
OTHER	**.7073369**	.1613233	-1.52	0.129	.4523678	1.106015
zses	**.7672908**	.0397682	-5.11	0.000	.6931747	.8493315

-> Model for the mediator

Iteration 0: Log likelihood = -2123.036
Iteration 1: Log likelihood = -2123.036

Linear regression (Maximum Likelihood)   Number of obs = 1,537
                                                        Wald chi2(7) = 106.98
Log likelihood = -2123.036   Prob > chi2   = 0.0000

zHannumAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.1462927	.0602948	2.43	0.015	.0281171	.2644684
zAGE_NHANES	-.0377068	.0256252	-1.47	0.141	-.0879312	.0125176
SEX	-.2997649	.050077	-5.99	0.000	-.3979141	-.2016157
NHB	-.4557914	.0701773	-6.49	0.000	-.5933364	-.3182464
HISP	.0399666	.065275	0.61	0.540	-.0879701	.1679033
OTHER	-.0592915	.1425918	-0.42	0.678	-.3387663	.2201834
zses	-.0879465	.0284628	-3.09	0.002	-.1437326	-.0321604
_cons	.1935117	.0495722	3.90	0.000	.096352	.2906715
sigma2						
_cons	.9274598	.0334559	27.72	0.000	.8618874	.9930323

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	.7558041	.1913635	3.95	0.000	.3807386	1.13087
ereri_cde	.723035	.1867134	3.87	0.000	.3570835	1.088986
ereri_intref	-.002429	.0160649	-0.15	0.880	-.0339157	.0290576
ereri_intmed	.0077857	.0246535	0.32	0.752	-.0405342	.0561057
ereri_pie	.0274124	.0146803	1.87	0.062	-.0013604	.0561852
terira	1.755804	.1913635	9.18	0.000	1.380739	2.13087
p_cde	.9566434	.0519116	18.43	0.000	.8548986	1.058388
p_intref	-.0032139	.0213854	-0.15	0.881	-.0451285	.0387007
p_intmed	.0103012	.0320485	0.32	0.748	-.0525127	.0731152
p_pie	.0362692	.0213588	1.70	0.089	-.0055931	.0781316
op_m	.0465705	.0352717	1.32	0.187	-.0225608	.1157017
op_ati	.0070874	.05307	0.13	0.894	-.0969278	.1111026
op_e	.0433566	.0519116	0.84	0.404	-.0583882	.1451014

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_NHANES SEX NHB HISP OTHER zses were not provided. All covariates ar

-> Summary

Outcome   (yvar): **TIMEyears**
Exposure   (avar): **frailty_status**
Mediator   (mvar): **zDunedinPoAm**
Covariates (cvars): **zAGE_NHANES SEX NHB HISP OTHER zses**

Model for the outcome (yreg): **cox**
Model for the mediator (mreg): **linear**

Referent exposure level (a0):   **0**
Actual exposure level   (a1):   **1**
Mediator level for the decomposition (m): **0**
Fixed values of the covariates (c):   **6.3e-10 .499 .2004 .3429 .03253 -3.9e-10**

-> Model for the outcome

      Failure _d: **DIED==1**
  Analysis time _t: **TIMEyears**
     ID variable: **ID**
         Weight: **[pweight=sampling_weight]**

(sum of wgt is 40,617,231.784653)
Iteration 0: Log pseudolikelihood = **-6256.1069**
Iteration 1: Log pseudolikelihood = **-5882.3851**
Iteration 2: Log pseudolikelihood = **-5878.0373**
Iteration 3: Log pseudolikelihood = **-5878.0289**
Iteration 4: Log pseudolikelihood = **-5878.0289**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-5878.0289**

Cox regression with Breslow method for ties

No. of subjects = **40,617,232**   Number of obs = **1,537**
No. of failures = **23,957,268**
Time at risk   = **553706396.8**
                                                 Wald chi2(**9**) = **402.64**
Log pseudolikelihood = **-5878.0289**   Prob > chi2   = **0.0000**

(Std. err. adjusted for **1,537** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	**1.642609**	**.1855268**	**4.39**	**0.000**	**1.316418**	**2.049625**
zDunedinPoAm	**1.317052**	**.0725288**	**5.00**	**0.000**	**1.182301**	**1.467161**
_frailty_statXzDunedinPoAm_000	**1.079681**	**.1137895**	**0.73**	**0.467**	**.8781844**	**1.32741**
zAGE_NHANES	**2.252875**	**.1110406**	**16.48**	**0.000**	**2.045421**	**2.48137**
SEX	**.574046**	**.0535301**	**-5.95**	**0.000**	**.4781583**	**.6891625**
NHB	**.9501304**	**.100915**	**-0.48**	**0.630**	**.7715704**	**1.170013**
HISP	**.6300527**	**.0913566**	**-3.19**	**0.001**	**.4741918**	**.8371431**
OTHER	**.7111611**	**.1560233**	**-1.55**	**0.120**	**.4626162**	**1.093239**
zses	**.7767959**	**.0402106**	**-4.88**	**0.000**	**.7018507**	**.8597438**

-> Model for the mediator

Iteration 0: Log likelihood = **-2084.8204**
Iteration 1: Log likelihood = **-2084.8204**

Linear regression (Maximum Likelihood)   Number of obs = **1,537**
                                                 Wald chi2(**7**) = **94.73**
Log likelihood = **-2084.8204**   Prob > chi2   = **0.0000**

zDunedinPoAm	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.2203692	.0588141	3.75	0.000	.1050956	.3356428
zAGE_NHANES	-.0056028	.0249959	-0.22	0.823	-.0545938	.0433883
SEX	-.3487578	.0488473	-7.14	0.000	-.4444968	-.2530189
NHB	.143166	.0684539	2.09	0.036	.0089987	.2773333
HISP	-.0909885	.0636721	-1.43	0.153	-.2157835	.0338064
OTHER	-.06233	.1390902	-0.45	0.654	-.3349417	.2102818
zses	-.1271919	.0277639	-4.58	0.000	-.181608	-.0727757
_cons	.1095494	.0483548	2.27	0.023	.0147756	.2043232
sigma2						
_cons	.8824675	.0318329	27.72	0.000	.8200761	.9448589

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	.8036325	.1958896	4.10	0.000	.419696	1.187569
ereri_cde	.6333866	.1829444	3.46	0.001	.2748221	.9919511
ereri_intref	.0356042	.0371824	0.96	0.338	-.037272	.1084804
ereri_intmed	.0720735	.0439134	1.64	0.101	-.0139951	.1581421
ereri_pie	.0625682	.0215054	2.91	0.004	.0204185	.104718
terira	1.803633	.1958896	9.21	0.000	1.419696	2.187569
p_cde	.7881545	.0934426	8.43	0.000	.6050104	.9712987
p_intref	.0443041	.0456298	0.97	0.332	-.0451287	.1337368
p_intmed	.0896846	.0488185	1.84	0.066	-.0059979	.1853672
p_pie	.0778568	.0311947	2.50	0.013	.0167162	.1389974
op_m	.1675414	.0603551	2.78	0.006	.0492476	.2858352
op_ati	.1339887	.0896545	1.49	0.135	-.0417309	.3097083
op_e	.2118455	.0934426	2.27	0.023	.0287013	.3949896

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_NHANES SEX NHB HISP OTHER zses were not provided. All covariates ar

-> Summary

Outcome   (yvar): **TIMEyears**
Exposure   (avar): **frailty_status**
Mediator   (mvar): **zPhenoAgeEAA**
Covariates (cvars): **zAGE_NHANES SEX NHB HISP OTHER zses**

Model for the outcome (yreg): **cox**
Model for the mediator (mreg): **linear**

Referent exposure level (a0):   **0**
Actual exposure level   (a1):   **1**
Mediator level for the decomposition (m): **0**
Fixed values of the covariates (c):   **6.3e-10 .499 .2004 .3429 .03253 -3.9e-10**

-> Model for the outcome

```
      Failure _d: DIED==1
 Analysis time _t: TIMEyears
     ID variable: ID
          Weight: [pweight=sampling_weight]
```

```
(sum of wgt is 40,617,231.784653)
Iteration 0:  Log pseudolikelihood = -6256.1069
Iteration 1:  Log pseudolikelihood = -5902.3883
Iteration 2:  Log pseudolikelihood = -5899.3492
Iteration 3:  Log pseudolikelihood = -5899.3454
Refining estimates:
Iteration 0:  Log pseudolikelihood = -5899.3454
```

Cox regression with Breslow method for ties

No. of subjects = 40,617,232	Number of obs = 1,537
No. of failures = 23,957,268	
Time at risk = 553706396.8	
	Wald chi2(9) = 396.75
Log pseudolikelihood = -5899.3454	Prob > chi2 = 0.0000

(Std. err. adjusted for **1,537** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	1.745728	.1943801	5.00	0.000	1.403456	2.171474
zPhenoAgeEAA	1.314493	.0840763	4.28	0.000	1.159617	1.490054
_frailty_statXzPhenoAgeEAA_000	.7966056	.0861057	-2.10	0.035	.6445199	.9845787
zAGE_NHANES	2.233953	.1076131	16.69	0.000	2.032686	2.455148
SEX	.5447832	.0503599	-6.57	0.000	.4545048	.6529938
NHB	1.010989	.1141793	0.10	0.923	.8102392	1.261478
HISP	.6426787	.0933491	-3.04	0.002	.4834559	.8543403
OTHER	.7422962	.1667179	-1.33	0.185	.4779688	1.152803
zses	.7732827	.0399953	-4.97	0.000	.6987356	.8557831

-> Model for the mediator

```
Iteration 0:  Log likelihood = -2151.2414
Iteration 1:  Log likelihood = -2151.2414
```

Linear regression (Maximum Likelihood)	Number of obs = 1,537
	Wald chi2(7) = 49.27
Log likelihood = -2151.2414	Prob > chi2 = 0.0000

zPhenoAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.2219615	.0614115	3.61	0.000	.1015972	.3423258
zAGE_NHANES	-.0566875	.0260998	-2.17	0.030	-.107842	-.0055329
SEX	-.1469005	.0510045	-2.88	0.004	-.2468675	-.0469336
NHB	-.1787463	.071477	-2.50	0.012	-.3188387	-.0386539
HISP	-.027538	.066484	-0.41	0.679	-.1578441	.1027682
OTHER	-.2130995	.1452327	-1.47	0.142	-.4977504	.0715513
zses	-.1107336	.02899	-3.82	0.000	-.1675529	-.0539143
_cons	.0698676	.0504903	1.38	0.166	-.0290916	.1688267
sigma2						
_cons	.9621317	.0347066	27.72	0.000	.8941079	1.030155

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	.7247697	.1874413	3.87	0.000	.3573916	1.092148
ereri_cde	.7304074	.1904086	3.84	0.000	.3572133	1.103601
ereri_intref	-.0231793	.0142252	-1.63	0.103	-.0510601	.0047015
ereri_intmed	-.0450337	.0385492	-1.17	0.243	-.1205887	.0305213
ereri_pie	.0625754	.023366	2.68	0.007	.0167789	.1083718
terira	1.72477	.1874413	9.20	0.000	1.357392	2.092148
p_cde	1.007779	.048621	20.73	0.000	.912483	1.103074
p_intref	-.0319816	.0220497	-1.45	0.147	-.0751982	.011235
p_intmed	-.0621352	.0552446	-1.12	0.261	-.1704127	.0461423
p_pie	.0863383	.0394656	2.19	0.029	.0089871	.1636895
op_m	.0242031	.0468078	0.52	0.605	-.0675385	.1159446
op_ati	-.0941168	.0652054	-1.44	0.149	-.2219169	.0336834
op_e	-.0077785	.048621	-0.16	0.873	-.1030739	.0875169

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_NHANES SEX NHB HISP OTHER zses were not provided. All covariates ar

-> Summary

Outcome   (yvar): **TIMEyears**
Exposure   (avar): **frailty_status**
Mediator   (mvar): **zGrimAgeMortEAA**
Covariates (cvars): **zAGE_NHANES SEX NHB HISP OTHER zses**

Model for the outcome (yreg): **cox**
Model for the mediator (mreg): **linear**

Referent exposure level (a0):   **0**
Actual exposure level   (a1):   **1**
Mediator level for the decomposition (m): **0**
Fixed values of the covariates (c):   **6.3e-10 .499 .2004 .3429 .03253 -3.9e-10**

-> Model for the outcome

Failure _d: **DIED==1**
Analysis time _t: **TIMEyears**
ID variable: **ID**
Weight: **[pweight=sampling_weight]**

(sum of wgt is 40,617,231.784653)
Iteration 0: Log pseudolikelihood = **-6256.1069**
Iteration 1: Log pseudolikelihood = **-5854.4664**
Iteration 2: Log pseudolikelihood = **-5850.5284**
Iteration 3: Log pseudolikelihood = **-5850.5198**
Iteration 4: Log pseudolikelihood = **-5850.5198**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-5850.5198**

Cox regression with Breslow method for ties

No. of subjects = **40,617,232**   Number of obs = **1,537**
No. of failures = **23,957,268**
Time at risk   = **553706396.8**

                                                                                  Wald chi2(**9**) = **417.58**
Log pseudolikelihood = **-5850.5198**   Prob > chi2   = **0.0000**

                                                                                  (Std. err. adjusted for **1,537** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	**1.549071**	**.1737061**	**3.90**	**0.000**	**1.243429**	**1.92984**
zGrimAgeMortEAA	**1.550081**	**.0894982**	**7.59**	**0.000**	**1.384229**	**1.735805**
_frailty_statXzGrimAgeMort_000	**1.081182**	**.1229247**	**0.69**	**0.492**	**.8652107**	**1.351065**
zAGE_NHANES	**2.34645**	**.1162227**	**17.22**	**0.000**	**2.129365**	**2.585665**
SEX	**.7338197**	**.0738544**	**-3.08**	**0.002**	**.6024504**	**.8938353**
NHB	**.9501342**	**.104643**	**-0.46**	**0.642**	**.7656634**	**1.17905**
HISP	**.6880545**	**.0993135**	**-2.59**	**0.010**	**.5185144**	**.9130297**
OTHER	**.7328358**	**.1743495**	**-1.31**	**0.191**	**.4597235**	**1.168198**
zses	**.8204904**	**.0429197**	**-3.78**	**0.000**	**.740538**	**.9090749**

-> Model for the mediator

Iteration 0: Log likelihood = **-1957.8441**
Iteration 1: Log likelihood = **-1957.8441**

Linear regression (Maximum Likelihood)   Number of obs = **1,537**
                                                                Wald chi2(**7**) = **367.56**
Log likelihood = **-1957.8441**   Prob > chi2   = **0.0000**

zGrimAgeMort~A	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	**.3266832**	**.0541506**	**6.03**	**0.000**	**.2205499**	**.4328164**
zAGE_NHANES	**-.0531603**	**.0230139**	**-2.31**	**0.021**	**-.0982667**	**-.0080539**
SEX	**-.7785573**	**.0449741**	**-17.31**	**0.000**	**-.8667048**	**-.6904097**
NHB	**.1457816**	**.0630261**	**2.31**	**0.021**	**.0222528**	**.2693104**
HISP	**-.193556**	**.0586233**	**-3.30**	**0.001**	**-.3084556**	**-.0786564**
OTHER	**-.1832431**	**.1280614**	**-1.43**	**0.152**	**-.4342388**	**.0677525**
zses	**-.1387704**	**.0255624**	**-5.43**	**0.000**	**-.1888718**	**-.088669**
_cons	**.3251945**	**.0445207**	**7.30**	**0.000**	**.2379356**	**.4124534**
sigma2						
_cons	**.7480694**	**.0269848**	**27.72**	**0.000**	**.6951801**	**.8009587**

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	.8699394	.2211501	3.93	0.000	.4364931	1.303386
ereri_cde	.5354044	.1697276	3.15	0.002	.2027444	.8680645
ereri_intref	.0442704	.0467035	0.95	0.343	-.0472667	.1358075
ereri_intmed	.1363182	.077928	1.75	0.080	-.0164178	.2890543
ereri_pie	.1539463	.0349839	4.40	0.000	.0853791	.2225134
terira	1.869939	.2211501	8.46	0.000	1.436493	2.303386
p_cde	.6154503	.1104231	5.57	0.000	.399025	.8318756
p_intref	.0508891	.0494594	1.03	0.304	-.0460495	.1478277
p_intmed	.1566985	.0671113	2.33	0.020	.0251628	.2882343
p_pie	.1769621	.0557828	3.17	0.002	.0676299	.2862943
op_m	.3336606	.0761098	4.38	0.000	.1844881	.4828331
op_ati	.2075876	.1129067	1.84	0.066	-.0137054	.4288807
op_e	.3845497	.1104231	3.48	0.000	.1681244	.600975

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.

```
7 .
8 .
9 . foreach m of varlist zHorvathAgeEAA zHannumAgeEAA zDunedinPoAm zPhenoAgeEAA zGrimAgeMortEAA  {
  2. med4way frailty_status `m' zAGE_HRS SEX NHB HISP OTHER zses  if sample_final==1 & COHORT_COMP==2, a0(0) a1(1
  3. }
```
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_HRS SEX NHB HISP OTHER zses were not provided. All covariates are f

-> Summary

```
Outcome    (yvar):  TIMEyears
Exposure   (avar):  frailty_status
Mediator   (mvar):  zHorvathAgeEAA
Covariates (cvars): zAGE_HRS SEX NHB HISP OTHER zses

Model for the outcome  (yreg): cox
Model for the mediator (mreg): linear

Referent exposure level (a0):        0
Actual exposure level   (a1):        1
Mediator level for the decomposition (m): 0
Fixed values of the covariates (c):     -2.0e-09 .5805 .1412 .1228 .02456 1.1e-08
```

-> Model for the outcome

```
      Failure _d: DIED==1
  Analysis time _t: TIMEyears
     ID variable: ID
          Weight: [pweight=sampling_weight]
```

(sum of wgt is 29,608,698)
Iteration 0: Log pseudolikelihood = -1570.9054
Iteration 1: Log pseudolikelihood = -1410.621
Iteration 2: Log pseudolikelihood = -1392.2528
Iteration 3: Log pseudolikelihood = -1392.1676
Iteration 4: Log pseudolikelihood = -1392.1676
Refining estimates:
Iteration 0: Log pseudolikelihood = -1392.1676

Cox regression with Breslow method for ties

No. of subjects = 29,608,698   Number of obs = 1,413
No. of failures =   4,648,812
Time at risk   = 188455736.6

                                                  Wald chi2(9) = 372.40
Log pseudolikelihood = -1392.1676   Prob > chi2   = 0.0000

                                      (Std. err. adjusted for 1,413 clusters in ID)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	2.27831	.372753	5.03	0.000	1.653287	3.139622
zHorvathAgeEAA	.8997258	.1208261	-0.79	0.431	.6915131	1.170631
_frailty_statXzHorvathAgeE_000	1.18841	.182807	1.12	0.262	.8790839	1.60658
zAGE_HRS	2.307727	.2104554	9.17	0.000	1.930004	2.759374
SEX	.6188891	.0935065	-3.18	0.001	.4602638	.832183
NHB	.9078865	.2281398	-0.38	0.701	.5547992	1.485687
HISP	.3394388	.1301647	-2.82	0.005	.1600851	.7197338
OTHER	1.169502	.8521377	0.21	0.830	.280406	4.877693
zses	.5728242	.0508128	-6.28	0.000	.4814097	.6815972

-> Model for the mediator

Iteration 0: Log likelihood = -2068.6261
Iteration 1: Log likelihood = -2068.6261

Linear regression (Maximum Likelihood)   Number of obs = 1,466
                                                  Wald chi2(7) = 22.24
Log likelihood = -2068.6261   Prob > chi2   = 0.0023

zHorvathAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.0889029	.0632507	1.41	0.160	-.0350661	.212872
zAGE_HRS	-.0344872	.027984	-1.23	0.218	-.0893349	.0203604
SEX	-.1960208	.0530214	-3.70	0.000	-.2999407	-.0921008
NHB	.0205693	.0786485	0.26	0.794	-.133579	.1747175
HISP	-.2135712	.086864	-2.46	0.014	-.3838214	-.0433209
OTHER	.1887862	.1693249	1.11	0.265	-.1430845	.520657
zses	-.0100955	.0290189	-0.35	0.728	-.0669714	.0467804
_cons	.109851	.0461407	2.38	0.017	.0194169	.2002851
sigma2						
_cons	.9843827	.036359	27.07	0.000	.9131204	1.055645

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	1.275483	.3695509	3.45	0.001	.5511766	1.999789
ereri_cde	1.26827	.3698083	3.43	0.001	.5434585	1.993081
ereri_intref	-.0062902	.0198533	-0.32	0.751	-.045202	.0326216
ereri_intmed	.0228537	.024834	0.92	0.357	-.0258201	.0715276
ereri_pie	-.00935	.0135544	-0.69	0.490	-.0359161	.0172162
terira	2.275483	.3695509	6.16	0.000	1.551177	2.999789
p_cde	.9943445	.0225494	44.10	0.000	.9501485	1.03854
p_intref	-.0049317	.0156759	-0.31	0.753	-.0356559	.0257926
p_intmed	.0179177	.0202655	0.88	0.377	-.0218019	.0576374
p_pie	-.0073305	.0109594	-0.67	0.504	-.0288105	.0141495
op_m	.0105872	.0139948	0.76	0.449	-.0168421	.0380164
op_ati	.0129861	.0208692	0.62	0.534	-.0279167	.0538889
op_e	.0056555	.0225494	0.25	0.802	-.0385405	.0498515

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_HRS SEX NHB HISP OTHER zses were not provided. All covariates are f

-> Summary

Outcome   (yvar): **TIMEyears**
Exposure   (avar): **frailty_status**
Mediator   (mvar): **zHannumAgeEAA**
Covariates (cvars): **zAGE_HRS SEX NHB HISP OTHER zses**

Model for the outcome (yreg): **cox**
Model for the mediator (mreg): **linear**

Referent exposure level (a0):   **0**
Actual exposure level   (a1):   **1**
Mediator level for the decomposition (m): **0**
Fixed values of the covariates (c):   **-2.0e-09 .5805 .1412 .1228 .02456 1.1e-08**

-> Model for the outcome

      Failure _d: **DIED==1**
 Analysis time _t: **TIMEyears**
     ID variable: **ID**
         Weight: **[pweight=sampling_weight]**

(sum of wgt is 29,608,698)
Iteration 0: Log pseudolikelihood = **-1570.9054**
Iteration 1: Log pseudolikelihood = **-1417.0648**
Iteration 2: Log pseudolikelihood = **-1389.7495**
Iteration 3: Log pseudolikelihood = **-1388.6687**
Iteration 4: Log pseudolikelihood = **-1388.6669**
Iteration 5: Log pseudolikelihood = **-1388.6669**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-1388.6669**

Cox regression with Breslow method for ties

```
No. of subjects =  29,608,698                    Number of obs =   1,413
No. of failures =   4,648,812
Time at risk    = 188455736.6
                                                 Wald chi2(9)  = 344.87
Log pseudolikelihood = -1388.6669                Prob > chi2   = 0.0000
```

(Std. err. adjusted for **1,413** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	2.252895	.3750578	4.88	0.000	1.625678	3.122104
zHannumAgeEAA	1.253537	.1472662	1.92	0.054	.9957205	1.578108
_frailty_statXzHannumAgeEA_000	.9343989	.1312645	-0.48	0.629	.7095049	1.230578
zAGE_HRS	2.357624	.2201697	9.18	0.000	1.963288	2.831164
SEX	.6656052	.1021996	-2.65	0.008	.4926289	.8993184
NHB	1.007411	.2550871	0.03	0.977	.6133007	1.654778
HISP	.3683556	.1368716	-2.69	0.007	.1778207	.7630488
OTHER	1.254185	.9174193	0.31	0.757	.299033	5.260221
zses	.5852606	.0507509	-6.18	0.000	.4937844	.6936833

-> Model for the mediator

```
Iteration 0:  Log likelihood = -2024.3743
Iteration 1:  Log likelihood = -2024.3743

Linear regression (Maximum Likelihood)           Number of obs =   1,466
                                                 Wald chi2(7)  = 114.86
Log likelihood = -2024.3743                      Prob > chi2   = 0.0000
```

zHannumAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.2434759	.06137	3.97	0.000	.123193	.3637588
zAGE_HRS	-.0504056	.0271519	-1.86	0.063	-.1036224	.0028112
SEX	-.4053479	.0514448	-7.88	0.000	-.5061778	-.3045179
NHB	-.4580297	.0763099	-6.00	0.000	-.6075945	-.308465
HISP	-.0051439	.0842811	-0.06	0.951	-.1703319	.160044
OTHER	.0386448	.1642902	0.24	0.814	-.283358	.3606475
zses	-.0469287	.028156	-1.67	0.096	-.1021135	.008256
_cons	.237709	.0447687	5.31	0.000	.1499639	.325454
sigma2						
_cons	.926713	.0342289	27.07	0.000	.8596256	.9938005

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]
tereri	1.322959	.3799252	3.48	0.000	.578319	2.067598
ereri_cde	1.240849	.3691501	3.36	0.001	.5173278	1.96437
ereri_intref	-.0056191	.0228035	-0.25	0.805	-.050313	.0390749
ereri_intmed	.0311695	.0544339	0.57	0.567	-.0755191	.137858
ereri_pie	.0565596	.033586	1.68	0.092	-.0092678	.1223871
terira	2.322959	.3799252	6.11	0.000	1.578319	3.067598
p_cde	.9379345	.0480653	19.51	0.000	.8437282	1.032141
p_intref	-.0042474	.0172785	-0.25	0.806	-.0381126	.0296179
p_intmed	.0235604	.0399316	0.59	0.555	-.054704	.1018249
p_pie	.0427524	.0274852	1.56	0.120	-.0111176	.0966224
op_m	.0663128	.0369387	1.80	0.073	-.0060856	.1387113
op_ati	.0193131	.0564212	0.34	0.732	-.0912705	.1298966
op_e	.0620655	.0480653	1.29	0.197	-.0321409	.1562718

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_HRS SEX NHB HISP OTHER zses were not provided. All covariates are f

-> Summary

    Outcome   (yvar): **TIMEyears**
    Exposure   (avar): **frailty_status**
    Mediator   (mvar): **zDunedinPoAm**
    Covariates (cvars): **zAGE_HRS SEX NHB HISP OTHER zses**

    Model for the outcome   (yreg): **cox**
    Model for the mediator (mreg): **linear**

    Referent exposure level (a0):   **0**
    Actual exposure level   (a1):   **1**
    Mediator level for the decomposition (m): **0**
    Fixed values of the covariates (c):   **-2.0e-09 .5805 .1412 .1228 .02456 1.1e-08**

-> Model for the outcome

        Failure **_d: DIED==1**
  Analysis time **_t: TIMEyears**
      ID variable: **ID**
          Weight: **[pweight=sampling_weight]**

(sum of wgt is 29,608,698)
Iteration 0: Log pseudolikelihood = **-1570.9054**
Iteration 1: Log pseudolikelihood = **-1424.2375**
Iteration 2: Log pseudolikelihood = **-1383.9275**
Iteration 3: Log pseudolikelihood = **-1379.0771**
Iteration 4: Log pseudolikelihood = **-1379.0027**
Iteration 5: Log pseudolikelihood = **-1379.0027**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-1379.0027**

Cox regression with Breslow method for ties

No. of subjects = **29,608,698**   Number of obs = **1,413**
No. of failures =   **4,648,812**
Time at risk   = **188455736.6**
                                                                     Wald chi2(**9**) = **339.81**
Log pseudolikelihood = **-1379.0027**   Prob > chi2   = **0.0000**

                                                    (Std. err. adjusted for **1,413** clusters in **ID**)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	**2.352615**	**.3968295**	**5.07**	**0.000**	**1.690339**	**3.274373**
zDunedinPoAm	**1.566576**	**.1906757**	**3.69**	**0.000**	**1.234092**	**1.988636**
_frailty_statXzDunedinPoAm_000	**.8433291**	**.1354458**	**-1.06**	**0.289**	**.6155834**	**1.155333**
zAGE_HRS	**2.305635**	**.2021321**	**9.53**	**0.000**	**1.941632**	**2.737879**
SEX	**.6720558**	**.1003284**	**-2.66**	**0.008**	**.5015716**	**.9004875**
NHB	**.8669033**	**.2097401**	**-0.59**	**0.555**	**.5395472**	**1.392874**
HISP	**.3278311**	**.1261658**	**-2.90**	**0.004**	**.1541932**	**.6970035**
OTHER	**1.038845**	**.7776834**	**0.05**	**0.959**	**.2395177**	**4.505714**
zses	**.5924052**	**.0500366**	**-6.20**	**0.000**	**.5020227**	**.6990599**

-> Model for the mediator

Iteration 0: Log likelihood = **-2035.6696**
Iteration 1: Log likelihood = **-2035.6696**

Linear regression (Maximum Likelihood)   Number of obs = **1,466**
                                                        Wald chi2(**7**) = **90.68**
Log likelihood = **-2035.6696**   Prob > chi2   = **0.0000**

zDunedinPoAm	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	**.189539**	**.0618446**	**3.06**	**0.002**	**.0683258**	**.3107523**
zAGE_HRS	**.0027183**	**.0273619**	**0.10**	**0.921**	**-.0509101**	**.0563467**
SEX	**-.2999739**	**.0518427**	**-5.79**	**0.000**	**-.4015837**	**-.198364**
NHB	**.2585659**	**.0769002**	**3.36**	**0.001**	**.1078444**	**.4092875**
HISP	**-.089736**	**.084933**	**-1.06**	**0.291**	**-.2562016**	**.0767296**
OTHER	**.3543143**	**.1655609**	**2.14**	**0.032**	**.0298209**	**.6788077**
zses	**-.1299788**	**.0283738**	**-4.58**	**0.000**	**-.1855904**	**-.0743673**
_cons	**.0917147**	**.045115**	**2.03**	**0.042**	**.0032909**	**.1801384**
sigma2						
_cons	**.941104**	**.0347605**	**27.07**	**0.000**	**.8729748**	**1.009233**

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]
tereri	1.35893	.3836593	3.54	0.000	.6069712	2.110888
ereri_cde	1.257178	.3585782	3.51	0.000	.5543778	1.959979
ereri_intref	-.0195367	.0655323	-0.30	0.766	-.1479776	.1089043
ereri_intmed	.032481	.0576011	0.56	0.573	-.080415	.145377
ereri_pie	.088807	.0393015	2.26	0.024	.0117774	.1658365
terira	2.35893	.3836593	6.15	0.000	1.606971	3.110888
p_cde	.9251239	.079642	11.62	0.000	.7690284	1.081219
p_intref	-.0143765	.0491714	-0.29	0.770	-.1107507	.0819977
p_intmed	.0239019	.0398865	0.60	0.549	-.0542742	.1020781
p_pie	.0653507	.0328634	1.99	0.047	.0009397	.1297617
op_m	.0892526	.0433566	2.06	0.040	.0042752	.17423
op_ati	.0095254	.0880668	0.11	0.914	-.1630824	.1821332
op_e	.0748761	.079642	0.94	0.347	-.0812194	.2309716

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_HRS SEX NHB HISP OTHER zses were not provided. All covariates are f

-> Summary

Outcome   (yvar): **TIMEyears**
Exposure   (avar): **frailty_status**
Mediator   (mvar): **zPhenoAgeEAA**
Covariates (cvars): **zAGE_HRS SEX NHB HISP OTHER zses**

Model for the outcome (yreg): **cox**
Model for the mediator (mreg): **linear**

Referent exposure level (a0):   **0**
Actual exposure level   (a1):   **1**
Mediator level for the decomposition (m): **0**
Fixed values of the covariates (c):   **-2.0e-09 .5805 .1412 .1228 .02456 1.1e-08**

-> Model for the outcome

       Failure _d: **DIED==1**
 Analysis time _t: **TIMEyears**
      ID variable: **ID**
           Weight: **[pweight=sampling_weight]**

(sum of wgt is 29,608,698)
Iteration 0: Log pseudolikelihood = **-1570.9054**
Iteration 1: Log pseudolikelihood = **-1433.1775**
Iteration 2: Log pseudolikelihood = **-1388.5484**
Iteration 3: Log pseudolikelihood = **-1385.6706**
Iteration 4: Log pseudolikelihood = **-1385.6439**
Iteration 5: Log pseudolikelihood = **-1385.6439**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-1385.6439**

Cox regression with Breslow method for ties

No. of subjects = 29,608,698   Number of obs =   1,413
No. of failures =   4,648,812
Time at risk   = 188455736.6
                                                     Wald chi2(9) = 369.44
Log pseudolikelihood = -1385.6439   Prob > chi2   = 0.0000

                                      (Std. err. adjusted for 1,413 clusters in ID)

_t	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	2.187237	.355869	4.81	0.000	1.590023	3.008767
zPhenoAgeEAA	1.211325	.1324703	1.75	0.080	.9776277	1.500887
_frailty_statXzPhenoAgeEAA_000	1.110616	.1634501	0.71	0.476	.8323235	1.481958
zAGE_HRS	2.3261	.214985	9.13	0.000	1.940698	2.78804
SEX	.6425472	.0989368	-2.87	0.004	.4751606	.8688996
NHB	.8593287	.2126825	-0.61	0.540	.5290396	1.395823
HISP	.281677	.1280647	-2.79	0.005	.1155452	.6866746
OTHER	1.229224	.89562	0.28	0.777	.2947409	5.126507
zses	.5930054	.0509632	-6.08	0.000	.5010787	.7017968

-> Model for the mediator

Iteration 0: Log likelihood = -2052.4373
Iteration 1: Log likelihood = -2052.4373

Linear regression (Maximum Likelihood)   Number of obs =   1,466
                                                     Wald chi2(7) =   55.48
Log likelihood = -2052.4373   Prob > chi2   = 0.0000

zPhenoAgeEAA	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.2295829	.0625561	3.67	0.000	.1069753	.3521905
zAGE_HRS	-.0335831	.0276767	-1.21	0.225	-.0878284	.0206623
SEX	-.2037765	.0524391	-3.89	0.000	-.3065552	-.1009978
NHB	.0618638	.0777848	0.80	0.426	-.0905915	.2143192
HISP	.1201202	.08591	1.40	0.162	-.0482603	.2885008
OTHER	-.1259847	.1674654	-0.75	0.452	-.4542108	.2022414
zses	-.0950698	.0287002	-3.31	0.001	-.1513211	-.0388185
_cons	.0394866	.045634	0.87	0.387	-.0499543	.1289275
sigma2						
_cons	.9628803	.0355648	27.07	0.000	.8931746	1.032586

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]
tereri	1.385189	.3955504	3.50	0.000	.6099246	2.160454
ereri_cde	1.17955	.35224	3.35	0.001	.4891719	1.869927
ereri_intref	.0486129	.0532071	0.91	0.361	-.055671	.1528968
ereri_intmed	.1120292	.0731028	1.53	0.125	-.0312496	.255308
ereri_pie	.0449975	.0290765	1.55	0.122	-.0119913	.1019863
terira	2.385189	.3955504	6.03	0.000	1.609925	3.160454
p_cde	.8515441	.0728741	11.69	0.000	.7087134	.9943747
p_intref	.0350948	.0363216	0.97	0.334	-.0360942	.1062838
p_intmed	.0808765	.0450817	1.79	0.073	-.007482	.1692349
p_pie	.0324847	.0224243	1.45	0.147	-.0114662	.0764356
op_m	.1133612	.045551	2.49	0.013	.0240828	.2026395
op_ati	.1159712	.0763547	1.52	0.129	-.0336813	.2656238
op_e	.1484559	.0728741	2.04	0.042	.0056253	.2912866

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.
Warning: this analysis assumes a rare outcome.
Warning: fixed values for the covariates zAGE_HRS SEX NHB HISP OTHER zses were not provided. All covariates are f

-> Summary

    Outcome   (yvar): **TIMEyears**
    Exposure   (avar): **frailty_status**
    Mediator   (mvar): **zGrimAgeMortEAA**
    Covariates (cvars): **zAGE_HRS SEX NHB HISP OTHER zses**

    Model for the outcome (yreg): **cox**
    Model for the mediator (mreg): **linear**

    Referent exposure level (a0):   **0**
    Actual exposure level   (a1):   **1**
    Mediator level for the decomposition (m): **0**
    Fixed values of the covariates (c):   **-2.0e-09 .5805 .1412 .1228 .02456 1.1e-08**

-> Model for the outcome

        Failure _d: **DIED==1**
  Analysis time _t: **TIMEyears**
       ID variable: **ID**
            Weight: **[pweight=sampling_weight]**

(sum of wgt is 29,608,698)
Iteration 0: Log pseudolikelihood = **-1570.9054**
Iteration 1: Log pseudolikelihood = **-1409.331**
Iteration 2: Log pseudolikelihood = **-1382.1184**
Iteration 3: Log pseudolikelihood = **-1376.8304**
Iteration 4: Log pseudolikelihood = **-1376.7363**
Iteration 5: Log pseudolikelihood = **-1376.7362**
Refining estimates:
Iteration 0: Log pseudolikelihood = **-1376.7362**

Cox regression with Breslow method for ties

No. of subjects = **29,608,698**   Number of obs = **1,413**
No. of failures = **4,648,812**
Time at risk   = **188455736.6**

                                                           Wald chi2(**9**) = **314.94**
Log pseudolikelihood = **-1376.7362**   Prob > chi2   = **0.0000**

(Std. err. adjusted for **1,413** clusters in **ID**)

	Haz. ratio	Robust std. err.	z	P>|z|	[95% conf. interval]	
frailty_status	2.243525	.3900612	4.65	0.000	1.59566	3.154435
zGrimAgeMortEAA	1.683905	.1658621	5.29	0.000	1.388275	2.042488
_frailty_statXzGrimAgeMort_000	.7932095	.1110453	-1.65	0.098	.6028705	1.043643
zAGE_HRS	2.429869	.2321601	9.29	0.000	2.014909	2.930288
SEX	.8714764	.1546187	-0.78	0.438	.6155086	1.233892
NHB	.8683152	.2281013	-0.54	0.591	.5188857	1.453059
HISP	.3865016	.1496328	-2.46	0.014	.180972	.8254508
OTHER	1.228248	.8970708	0.28	0.778	.2934927	5.140139
zses	.6287385	.0539676	-5.41	0.000	.5313826	.7439312

-> Model for the mediator

Iteration 0: Log likelihood = **-1903.8131**
Iteration 1: Log likelihood = **-1903.8131**

Linear regression (Maximum Likelihood)   Number of obs = **1,466**
                                                           Wald chi2(**7**) = **397.47**
Log likelihood = **-1903.8131**   Prob > chi2   = **0.0000**

zGrimAgeMort~A	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
mu						
frailty_status	.3236897	.056525	5.73	0.000	.2129028	.4344766
zAGE_HRS	-.0636162	.0250084	-2.54	0.011	-.1126316	-.0146007
SEX	-.7631156	.0473834	-16.11	0.000	-.8559853	-.6702459
NHB	.2294444	.0702855	3.26	0.001	.0916874	.3672013
HISP	-.2193255	.0776273	-2.83	0.005	-.3714723	-.0671788
OTHER	.0007669	.1513199	0.01	0.996	-.2958146	.2973483
zses	-.2320794	.0259332	-8.95	0.000	-.2829074	-.1812513
_cons	.3551372	.0412343	8.61	0.000	.2743194	.435955
sigma2						
_cons	.7861656	.0290377	27.07	0.000	.7292528	.8430785

-> 4-way decomposition: delta method

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
tereri	1.332651	.3874949	3.44	0.001	.5731754	2.092127
ereri_cde	1.166633	.3639936	3.21	0.001	.4532191	1.880048
ereri_intref	-.0426051	.0426797	-1.00	0.318	-.1262558	.0410457
ereri_intmed	.0248822	.0902681	0.28	0.783	-.15204	.2018045
ereri_pie	.1837409	.0513828	3.58	0.000	.0830324	.2844493
terira	2.332651	.3874949	6.02	0.000	1.573175	3.092127
p_cde	.8754228	.0888053	9.86	0.000	.7013676	1.049478
p_intref	-.0319702	.0341482	-0.94	0.349	-.0988995	.0349592
p_intmed	.0186712	.06575	0.28	0.776	-.1101964	.1475388
p_pie	.1378762	.053853	2.56	0.010	.0323262	.2434261
op_m	.1565474	.06708	2.33	0.020	.025073	.2880218
op_ati	-.0132989	.0988361	-0.13	0.893	-.2070142	.1804163
op_e	.1245772	.0888053	1.40	0.161	-.049478	.2986324

tereri=total excess relative risk; ereri_cde=excess relative risk due to controlled direct effect; ereri_intre
to mediated interaction; ereri_pie=excess relative risk due to pure indirect effect; terira=total effect risk
interaction; p_intmed=proportion mediated interaction; p_pie=proportion pure indirect effect; op_m=overall pro
proportion eliminated.

10 .
11 .
12 . capture log close