



User: iman
Project: iman

1 . sum gender age LDL_chol HOMA2_IR BMI sysBloodPr diastBloodPressure

Variable	Obs	Mean	Std. Dev.	Min	Max
gender	150	.54	.5000671	0	1
age	150	40.20667	4.928069	27	53
LDL_chol	150	94.80755	15.40653	59.88626	133.1309
HOMA2_IR	150	2.278219	.709836	.4866602	4.361196
BMI	150	28.28346	2.990533	20.30083	35.16374
sysBloodPr	150	149.7291	10.43408	123.4009	175.7543
diastBlood~e	150	94.25166	11.38758	69.99635	124.0379

2 .
3 . corr age LDL_chol HOMA2_IR BMI sysBloodPr diastBloodPressure
(obs=150)

	age	LDL_chol	HOMA2_IR	BMI	sysBlo~r	diastB~e
age	1.0000					
LDL_chol	0.9919	1.0000				
HOMA2_IR	0.9941	0.9947	1.0000			
BMI	0.9938	0.9948	0.9960	1.0000		
sysBloodPr	0.9958	0.9953	0.9958	0.9962	1.0000	
diastBlood~e	0.9915	0.9951	0.9962	0.9945	0.9949	1.0000

4 .
5 . tab $\lambda_{01\Delta t1}$

$\lambda_{01\Delta t1}$	Freq.	Percent	Cum.
0	63	42.00	42.00
1	58	38.67	80.67
2	25	16.67	97.33
3	4	2.67	100.00
Total	150	100.00	

6 .
7 . tab $\lambda_{12\Delta t1}$

$\lambda_{12\Delta t1}$	Freq.	Percent	Cum.
0	96	64.00	64.00
1	43	28.67	92.67
2	9	6.00	98.67
3	2	1.33	100.00
Total	150	100.00	

8 .
9 . tab $\lambda_{23\Delta t1}$

$\lambda_{23\Delta t1}$	Freq.	Percent	Cum.
0	121	80.67	80.67
1	23	15.33	96.00
2	4	2.67	98.67
3	2	1.33	100.00
Total	150	100.00	

10 .
11 . tab $\lambda_{34\Delta t1}$

$\lambda_{34\Delta t1}$	Freq.	Percent	Cum.
0	128	85.33	85.33
1	22	14.67	100.00
Total	150	100.00	

12 .
13 . tab $\mu_{10\Delta t1}$

$\mu_{10\Delta t1}$	Freq.	Percent	Cum.
0	121	80.67	80.67
1	24	16.00	96.67
2	3	2.00	98.67
3	2	1.33	100.00
Total	150	100.00	

14 .
15 . tab $\mu_{21\Delta t1}$

$\mu_{21\Delta t1}$	Freq.	Percent	Cum.
0	127	84.67	84.67
1	17	11.33	96.00
2	5	3.33	99.33
3	1	0.67	100.00
Total	150	100.00	

16 .
17 . tab $\mu_{32\Delta t1}$

$\mu_{32\Delta t1}$	Freq.	Percent	Cum.
0	130	86.67	86.67
1	17	11.33	98.00
2	3	2.00	100.00
Total	150	100.00	

18 .
19 . tab $\mu_{20\Delta t1}$

$\mu_{20\Delta t1}$	Freq.	Percent	Cum.
0	138	92.00	92.00
1	11	7.33	99.33
2	1	0.67	100.00
Total	150	100.00	

20 .
21 . tab $\mu 31\Delta t1$

$\mu 31\Delta t1$	Freq.	Percent	Cum.
0	139	92.67	92.67
1	9	6.00	98.67
2	2	1.33	100.00
Total	150	100.00	

22 .
23 . tab ageCtegrory

ageCtegrory	Freq.	Percent	Cum.
1	22	14.67	14.67
2	109	72.67	87.33
3	19	12.67	100.00
Total	150	100.00	

24 .
25 . tab MBICategory

MBICategory	Freq.	Percent	Cum.
1	22	14.67	14.67
2	83	55.33	70.00
3	45	30.00	100.00
Total	150	100.00	

26 .
27 . tab LDLcholCategory

LDLcholCategory	Freq.	Percent	Cum.
1	5	3.33	3.33
2	93	62.00	65.33
3	52	34.67	100.00
Total	150	100.00	

28 .
29 . tab HOMA2_IRcategory

HOMA2_IRcategory	Freq.	Percent	Cum.
1	10	6.67	6.67
2	93	62.00	68.67
3	47	31.33	100.00
Total	150	100.00	

```
30 .
31 . tab systPrCategory
```

systPrCategory	Freq.	Percent	Cum.
1	4	2.67	2.67
2	123	82.00	84.67
3	23	15.33	100.00
Total	150	100.00	

```
32 .
33 . tab diastPrCategory
```

diastPrCategory	Freq.	Percent	Cum.
1	33	22.00	22.00
2	69	46.00	68.00
3	48	32.00	100.00
Total	150	100.00	

```
34 .
35 . mkspline HOMAsp = HOMA2_IR, cubic displayknots
```

	knot1	knot2	knot3	knot4	knot5
HOMA2_IR	1.0879	1.802248	2.263381	2.752956	3.480719

```
36 .
37 . mkspline LDLsp = LDL_chol, cubic displayknots
```

	knot1	knot2	knot3	knot4	knot5
LDL_chol	71.22266	83.70328	94.62621	104.4809	124.1413

```
38 .
39 . mkspline sysPS = sysBloodPr, cubic displayknots
```

	knot1	knot2	knot3	knot4	knot5
sysBloodPr	133.0965	143.8759	149.4107	155.5788	168.0359

```
40 .
41 . mkspline DiasPS = diastBloodPressure, cubic displayknots
```

	knot1	knot2	knot3	knot4	knot5
diastBlood~e	74.44541	87.43943	94.06548	101.1098	114.4986

```
42 .
43 . lowess λ01Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> lpattern(solid) connect(direct))
```

```

44 .
45 . lowess  $\lambda_{01\Delta t1}$  age, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
  > attern(solid) connect(direct))

46 .
47 . lowess  $\lambda_{01\Delta t1}$  LDL_chol, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > k) lpattern(solid) connect(direct))

48 .
49 . lowess  $\lambda_{01\Delta t1}$  BMI, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
  > attern(solid) connect(direct))

50 .
51 . lowess  $\lambda_{01\Delta t1}$  HOMA2_IR, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > k) lpattern(solid) connect(direct))

52 .
53 . lowess  $\lambda_{01\Delta t1}$  sysBloodPr, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > ick) lpattern(solid) connect(direct))

54 .
55 . lowess  $\lambda_{01\Delta t1}$  diastBloodPressure, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > width(thick) lpattern(solid) connect(direct))

56 .
57 . lowess  $\lambda_{12\Delta t1}$  gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > lpattern(solid) connect(direct))

58 .
59 . lowess  $\lambda_{12\Delta t1}$  age, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
  > attern(solid) connect(direct))

60 .
61 . lowess  $\lambda_{12\Delta t1}$  LDL_chol, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > k) lpattern(solid) connect(direct))

62 .
63 . lowess  $\lambda_{12\Delta t1}$  BMI, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
  > attern(solid) connect(direct))

64 .
65 . lowess  $\lambda_{12\Delta t1}$  HOMA2_IR, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > k) lpattern(solid) connect(direct))

66 .
67 . lowess  $\lambda_{12\Delta t1}$  sysBloodPr, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > ick) lpattern(solid) connect(direct))

68 .
69 . lowess  $\lambda_{12\Delta t1}$  diastBloodPressure, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > width(thick) lpattern(solid) connect(direct))

70 .
71 . lowess  $\lambda_{23\Delta t1}$  gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
  > lpattern(solid) connect(direct))

```

```

72 .
73 . lowess λ23Δt1 age, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
> attern(solid) connect(direct))

74 .
75 . lowess λ23Δt1 LDL_chol, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> k) lpattern(solid) connect(direct))

76 .
77 . lowess λ23Δt1 BMI, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
> attern(solid) connect(direct))

78 .
79 . lowess λ23Δt1 HOMA2_IR, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> k) lpattern(solid) connect(direct))

80 .
81 . lowess λ23Δt1 sysBloodPr, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> ick) lpattern(solid) connect(direct))

82 .
83 . lowess λ23Δt1 diastBloodPressure, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> width(thick) lpattern(solid) connect(direct))

84 .
85 . lowess λ34Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> lpattern(solid) connect(direct))

86 .
87 . lowess λ34Δt1 age, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
> attern(solid) connect(direct))

88 .
89 . lowess λ34Δt1 LDL_chol, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> k) lpattern(solid) connect(direct))

90 .
91 . lowess λ34Δt1 BMI, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) lin
> attern(solid) connect(direct))

92 .
93 . lowess λ34Δt1 HOMA2_IR, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> k) lpattern(solid) connect(direct))

94 .
95 . lowess λ34Δt1 sysBloodPr, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> ick) lpattern(solid) connect(direct))

96 .
97 . lowess λ34Δt1 diastBloodPressure, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> width(thick) lpattern(solid) connect(direct))

98 .
99 . lowess μ10Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
> lpattern(solid) connect(direct))

```

```

100 .
101 . lowess p10Δt1 age , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

102 .
103 . lowess p10Δt1 LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

104 .
105 . lowess p10Δt1 HOMA2_IR , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

106 .
107 . lowess p10Δt1 BMI , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

108 .
109 . lowess p10Δt1 sysBloodPr , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > hick) lpattern(solid) connect(direct))

110 .
111 . lowess p10Δt1 diastBloodPressure , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lwidth(thick) lpattern(solid) connect(direct))

112 .
113 . lowess p21Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lpattern(solid) connect(direct))

114 .
115 . lowess p21Δt1 age , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

116 .
117 . lowess p21Δt1 LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

118 .
119 . lowess p21Δt1 HOMA2_IR , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

120 .
121 . lowess p21Δt1 BMI , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

122 .
123 . lowess p21Δt1 sysBloodPr , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > hick) lpattern(solid) connect(direct))

124 .
125 . lowess p21Δt1 diastBloodPressure , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lwidth(thick) lpattern(solid) connect(direct))

126 .
127 . lowess p32Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lpattern(solid) connect(direct))

```

```

128 .
129 . lowess μ32Δt1 age , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

130 .
131 . lowess μ32Δt1 LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

132 .
133 . lowess μ32Δt1 HOMA2_IR , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

134 .
135 . lowess μ32Δt1 BMI , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

136 .
137 . lowess μ32Δt1 sysBloodPr , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > hick) lpattern(solid) connect(direct))

138 .
139 . lowess μ32Δt1 diastBloodPressure , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lwidth(thick) lpattern(solid) connect(direct))

140 .
141 . lowess μ20Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lpattern(solid) connect(direct))

142 .
143 . lowess μ20Δt1 age , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

144 .
145 . lowess μ20Δt1 LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

146 .
147 . lowess μ20Δt1 HOMA2_IR , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > ck) lpattern(solid) connect(direct))

148 .
149 . lowess μ20Δt1 BMI , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

150 .
151 . lowess μ20Δt1 sysBloodPr , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > hick) lpattern(solid) connect(direct))

152 .
153 . lowess μ20Δt1 diastBloodPressure , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lwidth(thick) lpattern(solid) connect(direct))

154 .
155 . lowess μ31Δt1 gender, bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin)
    > lpattern(solid) connect(direct))

```



```

156 .
157 . lowess  $\mu_{31\Delta t1}$  LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

158 .
159 . lowess  $\mu_{31\Delta t1}$  LDL_chol , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > ck) lpattern(solid) connect(direct))

160 .
161 . lowess  $\mu_{31\Delta t1}$  HOMA2_IR , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > ck) lpattern(solid) connect(direct))

162 .
163 . lowess  $\mu_{31\Delta t1}$  BMI , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > pattern(solid) connect(direct))

164 .
165 . lowess  $\mu_{31\Delta t1}$  sysBloodPr , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > hick) lpattern(solid) connect(direct))

166 .
167 . lowess  $\mu_{31\Delta t1}$  diastBloodPressure , bwidth(0.4) recast(connected) mcolor(red) msize(medlarge) lwidth(medthin) li
    > lwidth(thick) lpattern(solid) connect(direct))

168 .
169 . poisson  $\lambda_{01\Delta t1}$  LDLsp2 HOMAAsp1 sysPS2 c.LDLsp2#c.HOMAAsp1 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAAsp1, vc
    > ) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -112.93301
Iteration 1: log pseudolikelihood = -110.47099
Iteration 2: log pseudolikelihood = -110.43006
Iteration 3: log pseudolikelihood = -110.43004
Iteration 4: log pseudolikelihood = -110.43004

```

```

Poisson regression                                Number of obs    =      150
                                                  Wald chi2(6)       =      535.34
                                                  Prob > chi2        =      0.0000
Log pseudolikelihood = -110.43004                Pseudo R2         =      0.3552

```

$\lambda_{01\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.523	0.243	2.149	0.032	0.046	1.000
HOMAAsp1	4.096	0.328	12.470	0.000	3.452	4.740
sysPS2	-0.628	0.347	-1.809	0.070	-1.308	0.052
c.LDLsp2#c.HOMAAsp1	-0.179	0.070	-2.540	0.011	-0.317	-0.041
c.LDLsp2#c.sysPS2	0.003	0.000	8.144	0.000	0.002	0.003
c.sysPS2#c.HOMAAsp1	0.151	0.098	1.547	0.122	-0.040	0.342
_cons	-9.510	0.725	-13.122	0.000	-10.930	-8.089

```
170 .
171 . poisson lambda1Delta1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAspl, vce(robust)
> 5.3f) sformat(%8.3f)
```

```
Iteration 0: log pseudolikelihood = -112.93301
Iteration 1: log pseudolikelihood = -110.47099
Iteration 2: log pseudolikelihood = -110.43006
Iteration 3: log pseudolikelihood = -110.43004
Iteration 4: log pseudolikelihood = -110.43004
```

```
Poisson regression                                Number of obs      =           150
                                                    Wald chi2(6)       =        535.34
                                                    Prob > chi2        =         0.0000
Log pseudolikelihood = -110.43004                Pseudo R2         =         0.3552
```

	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
lambda1Delta1						
LDLsp2	1.687	0.411	2.149	0.032	1.047	2.718
HOMAspl	60.097	19.739	12.470	0.000	31.569	114.403
sysPS2	0.534	0.185	-1.809	0.070	0.270	1.054
c.LDLsp2#c.HOMAspl	0.836	0.059	-2.540	0.011	0.728	0.960
c.LDLsp2#c.sysPS2	1.003	0.000	8.144	0.000	1.002	1.003
c.sysPS2#c.HOMAspl	1.163	0.113	1.547	0.122	0.960	1.408
_cons	0.000	0.000	-13.122	0.000	0.000	0.000

```
172 .
173 . estat gof
```

```
Deviance goodness-of-fit = 27.55006
Prob > chi2(143)        = 1.0000

Pearson goodness-of-fit  = 24.45824
Prob > chi2(143)        = 1.0000
```

```
174 .
175 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-171.2729	-110.43	7	234.8601	255.9345

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

```
176 .
177 . predict est01,xb
```

```

178 .
179 . gen est01count=exp(est01)

180 .
181 . gen est01countround=round( est01count )

182 .
183 . tab est01countround

```

est01count round	Freq.	Percent	Cum.
0	75	50.00	50.00
1	34	22.67	72.67
2	37	24.67	97.33
3	4	2.67	100.00
Total	150	100.00	

```

184 .
185 . poisson  $\lambda$ 12 $\Delta$ t1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl c.sysPS2#c.HOMAspl, vce(robust) cfor
> f)

```

```

Iteration 0: log pseudolikelihood = -110.19868
Iteration 1: log pseudolikelihood = -76.739509
Iteration 2: log pseudolikelihood = -68.155535
Iteration 3: log pseudolikelihood = -67.88722
Iteration 4: log pseudolikelihood = -67.886656
Iteration 5: log pseudolikelihood = -67.886656

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(5)      =      284.30
                                                    Prob > chi2       =      0.0000
Log pseudolikelihood = -67.886656                Pseudo R2        =      0.4811

```

λ 12 Δ t1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.311	0.396	0.785	0.432	-0.465	1.086
HOMAspl	5.486	0.571	9.599	0.000	4.366	6.606
sysPS2	-0.314	0.545	-0.577	0.564	-1.383	0.754
c.LDLsp2#c.HOMAspl	-0.105	0.116	-0.902	0.367	-0.332	0.123
c.sysPS2#c.HOMAspl	0.079	0.158	0.502	0.616	-0.231	0.389
_cons	-14.884	1.363	-10.923	0.000	-17.555	-12.213

```

186 .
187 . poisson  $\lambda$ 12 $\Delta$ t1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl c.sysPS2#c.HOMAspl, vce(robust) irr
> %8.3f)

```

```

Iteration 0: log pseudolikelihood = -110.19868
Iteration 1: log pseudolikelihood = -76.739509
Iteration 2: log pseudolikelihood = -68.155535
Iteration 3: log pseudolikelihood = -67.88722
Iteration 4: log pseudolikelihood = -67.886656
Iteration 5: log pseudolikelihood = -67.886656

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(5)      =      284.30
                                                    Prob > chi2       =      0.0000
Log pseudolikelihood = -67.886656                Pseudo R2        =      0.4811

```

$\lambda_{12}\Delta t_1$	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	1.364	0.540	0.785	0.432	0.628	2.962
HOMAspl	241.179	137.821	9.599	0.000	78.690	739.192
sysPS2	0.730	0.398	-0.577	0.564	0.251	2.126
c.LDLsp2#c.HOMAspl	0.901	0.105	-0.902	0.367	0.717	1.131
c.sysPS2#c.HOMAspl	1.083	0.171	0.502	0.616	0.794	1.476
_cons	0.000	0.000	-10.923	0.000	0.000	0.000

```
188 .
189 . estat gof
```

```
Deviance goodness-of-fit = 20.26627
Prob > chi2(144)         = 1.0000

Pearson goodness-of-fit   = 18.12217
Prob > chi2(144)         = 1.0000
```

```
190 .
191 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-130.82	-67.88666	6	147.7733	165.8371

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

```
192 .
193 . predict est12,xb

194 .
195 . gen est12count=exp(est12)

196 .
197 . gen est12countround=round( est12count )

198 .
199 . tab est12countround
```

est12count round	Freq.	Percent	Cum.
0	102	68.00	68.00
1	35	23.33	91.33
2	11	7.33	98.67
3	1	0.67	99.33
4	1	0.67	100.00
Total	150	100.00	

```

200 .
201 . poisson λ23Δt1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAspl
> t(%5.3f) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -160.12839
Iteration 1: log pseudolikelihood = -107.21927 (backed up)
Iteration 2: log pseudolikelihood = -81.300112
Iteration 3: log pseudolikelihood = -39.228241
Iteration 4: log pseudolikelihood = -37.90122
Iteration 5: log pseudolikelihood = -37.865806
Iteration 6: log pseudolikelihood = -37.86568
Iteration 7: log pseudolikelihood = -37.86568

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)      =     191.48
                                                    Prob > chi2       =     0.0000
Log pseudolikelihood = -37.86568                Pseudo R2        =     0.6020

```

λ23Δt1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	-1.480	0.685	-2.159	0.031	-2.823	-0.137
HOMAspl	6.174	3.093	1.996	0.046	0.112	12.237
sysPS2	2.497	0.967	2.583	0.010	0.602	4.391
c.LDLsp2#c.HOMAspl	0.390	0.192	2.032	0.042	0.014	0.766
c.LDLsp2#c.sysPS2	-0.001	0.002	-0.403	0.687	-0.005	0.004
c.sysPS2#c.HOMAspl	-0.655	0.274	-2.392	0.017	-1.191	-0.118
_cons	-20.866	7.293	-2.861	0.004	-35.160	-6.572

```

202 .
203 . poisson λ23Δt1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAspl
> ormat(%5.3f) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -160.12839
Iteration 1: log pseudolikelihood = -107.21927 (backed up)
Iteration 2: log pseudolikelihood = -81.300112
Iteration 3: log pseudolikelihood = -39.228241
Iteration 4: log pseudolikelihood = -37.90122
Iteration 5: log pseudolikelihood = -37.865806
Iteration 6: log pseudolikelihood = -37.86568
Iteration 7: log pseudolikelihood = -37.86568

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)      =     191.48
                                                    Prob > chi2       =     0.0000
Log pseudolikelihood = -37.86568                Pseudo R2        =     0.6020

```

λ23Δt1	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.228	0.156	-2.159	0.031	0.059	0.872
HOMAspl	480.318	1485.815	1.996	0.046	1.118	2.06e+05
sysPS2	12.143	11.738	2.583	0.010	1.826	80.754
c.LDLsp2#c.HOMAspl	1.477	0.283	2.032	0.042	1.014	2.151
c.LDLsp2#c.sysPS2	0.999	0.002	-0.403	0.687	0.995	1.004
c.sysPS2#c.HOMAspl	0.520	0.142	-2.392	0.017	0.304	0.889

_cons	0.000	0.000	-2.861	0.004	0.000	0.001
--------------	--------------	--------------	---------------	--------------	--------------	--------------

204 .
205 . estat gof

Deviance goodness-of-fit = **13.29285**
Prob > chi2(**143**) = **1.0000**

Pearson goodness-of-fit = **12.42161**
Prob > chi2(**143**) = **1.0000**

206 .
207 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-95.14565	-37.86568	7	89.73136	110.8058

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

208 .
209 . predict est23,xb

210 .
211 . gen est23count=exp(est23)

212 .
213 . gen est23countround=round(est23count)

214 .
215 . tab est23countround

est23count round	Freq.	Percent	Cum.
0	125	83.33	83.33
1	18	12.00	95.33
2	4	2.67	98.00
3	3	2.00	100.00
Total	150	100.00	

216 .
217 . poisson λ 34At1 LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl, vce(robust) cformat(%9.3f) pformat(%5

Iteration 0: log pseudolikelihood = **-51.459148**
Iteration 1: log pseudolikelihood = **-33.399587**
Iteration 2: log pseudolikelihood = **-28.375528**
Iteration 3: log pseudolikelihood = **-27.031648**
Iteration 4: log pseudolikelihood = **-26.968757**
Iteration 5: log pseudolikelihood = **-26.968505**
Iteration 6: log pseudolikelihood = **-26.968505**

Poisson regression	Number of obs	=	150
	Wald chi2(4)	=	122.33
	Prob > chi2	=	0.0000
Log pseudolikelihood = -26.968505	Pseudo R2	=	0.5801

$\lambda_{34\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.452	0.055	8.278	0.000	0.345	0.559
HOMAspl	10.866	1.402	7.753	0.000	8.119	13.613
sysPS2	0.073	0.050	1.472	0.141	-0.024	0.171
c.LDLsp2#c.HOMAspl	-0.166	0.018	-9.320	0.000	-0.201	-0.131
_cons	-34.034	3.865	-8.806	0.000	-41.608	-26.459

218 .

219 . poisson $\lambda_{34\Delta t1}$ LDLsp2 HOMAspl sysPS2 c.LDLsp2#c.HOMAspl, vce(robust) irr cformat(%9.3f) pforma

Iteration 0: log pseudolikelihood = **-51.459148**
 Iteration 1: log pseudolikelihood = **-33.399587**
 Iteration 2: log pseudolikelihood = **-28.375528**
 Iteration 3: log pseudolikelihood = **-27.031648**
 Iteration 4: log pseudolikelihood = **-26.968757**
 Iteration 5: log pseudolikelihood = **-26.968505**
 Iteration 6: log pseudolikelihood = **-26.968505**

Poisson regression	Number of obs	=	150
	Wald chi2(4)	=	122.33
	Prob > chi2	=	0.0000
Log pseudolikelihood = -26.968505	Pseudo R2	=	0.5801

$\lambda_{34\Delta t1}$	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	1.571	0.086	8.278	0.000	1.412	1.748
HOMAspl	52375.984	73411.343	7.753	0.000	3357.911	8.17e+05
sysPS2	1.076	0.054	1.472	0.141	0.976	1.187
c.LDLsp2#c.HOMAspl	0.847	0.015	-9.320	0.000	0.818	0.877
_cons	0.000	0.000	-8.806	0.000	0.000	0.000

220 .

221 . estat gof

Deviance goodness-of-fit = **9.93701**
 Prob > chi2(**145**) = **1.0000**

Pearson goodness-of-fit = **8.963525**
 Prob > chi2(**145**) = **1.0000**

222 .

223 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-64.23104	-26.9685	5	63.93701	78.99019

Note: N=Obs used in calculating BIC; see [R] BIC note.

```

224 .
225 . predict est34,xb

226 .
227 . gen est34count=exp(est34)

228 .
229 . gen est34countround=round( est34count )

230 .
231 . tab est34countround

```

est34countround	Freq.	Percent	Cum.
0	133	88.67	88.67
1	14	9.33	98.00
2	3	2.00	100.00
Total	150	100.00	

```

232 .
233 . poisson u10At1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> (%5.3f) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -156.14216
Iteration 1: log pseudolikelihood = -98.267306
Iteration 2: log pseudolikelihood = -63.346557
Iteration 3: log pseudolikelihood = -39.002967
Iteration 4: log pseudolikelihood = -38.151225
Iteration 5: log pseudolikelihood = -38.14473
Iteration 6: log pseudolikelihood = -38.144729

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)      =      331.08
                                                    Prob > chi2       =      0.0000
Log pseudolikelihood = -38.144729                Pseudo R2        =      0.5900

```

u10At1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	-0.454	0.244	-1.862	0.063	-0.932	0.024
HOMAsp2	-4.489	2.962	-1.515	0.130	-10.294	1.316
sysPS2	1.340	0.312	4.301	0.000	0.729	1.951
c.LDLsp2#c.HOMAsp2	0.290	0.096	3.029	0.002	0.102	0.478
c.LDLsp2#c.sysPS2	-0.010	0.004	-2.789	0.005	-0.017	-0.003
c.sysPS2#c.HOMAsp2	-0.286	0.145	-1.974	0.048	-0.571	-0.002
_cons	-5.916	0.508	-11.651	0.000	-6.912	-4.921


```
234 .
235 . poisson u10At1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> rmat(%5.3f) sformat(%8.3f)
```

```
Iteration 0: log pseudolikelihood = -156.14216
Iteration 1: log pseudolikelihood = -98.267306
Iteration 2: log pseudolikelihood = -63.346557
Iteration 3: log pseudolikelihood = -39.002967
Iteration 4: log pseudolikelihood = -38.151225
Iteration 5: log pseudolikelihood = -38.14473
Iteration 6: log pseudolikelihood = -38.144729
```

```
Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)     =     331.08
                                                    Prob > chi2      =     0.0000
Log pseudolikelihood = -38.144729                Pseudo R2       =     0.5900
```

	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
u10At1						
LDLsp2	0.635	0.155	-1.862	0.063	0.394	1.024
HOMAsp2	0.011	0.033	-1.515	0.130	0.000	3.730
sysPS2	3.820	1.190	4.301	0.000	2.074	7.034
c.LDLsp2#c.HOMAsp2	1.337	0.128	3.029	0.002	1.108	1.612
c.LDLsp2#c.sysPS2	0.990	0.004	-2.789	0.005	0.983	0.997
c.sysPS2#c.HOMAsp2	0.751	0.109	-1.974	0.048	0.565	0.998
_cons	0.003	0.001	-11.651	0.000	0.001	0.007

```
236 .
237 . estat gof
```

```
Deviance goodness-of-fit = 14.46465
Prob > chi2(143)         = 1.0000
```

```
Pearson goodness-of-fit = 13.54881
Prob > chi2(143)         = 1.0000
```

```
238 .
239 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-93.03915	-38.14473	7	90.28946	111.3639

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

```

240 .
241 . predict est10,xb

242 .
243 . gen est10count=exp(est10)

244 .
245 . gen est10countround=round( est10count )

246 .
247 . tab est10countround

```

est10countround	Freq.	Percent	Cum.
0	126	84.00	84.00
1	15	10.00	94.00
2	7	4.67	98.67
3	1	0.67	99.33
4	1	0.67	100.00
Total	150	100.00	

```

248 .
249 . poisson u21dt1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> (%5.3f) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -189.11152
Iteration 1: log pseudolikelihood = -135.76136 (backed up)
Iteration 2: log pseudolikelihood = -72.824996
Iteration 3: log pseudolikelihood = -46.875924
Iteration 4: log pseudolikelihood = -33.535715
Iteration 5: log pseudolikelihood = -30.03631
Iteration 6: log pseudolikelihood = -29.958911
Iteration 7: log pseudolikelihood = -29.958555
Iteration 8: log pseudolikelihood = -29.958555

```

```

Poisson regression                                Number of obs      =      150
                                                    Wald chi2(6)       =     304.94
                                                    Prob > chi2        =      0.0000
Log pseudolikelihood = -29.958555                Pseudo R2         =      0.6414

```

u21dt1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	-0.128	0.189	-0.675	0.499	-0.499	0.243
HOMAsp2	-3.288	2.812	-1.169	0.242	-8.800	2.224
sysPS2	0.913	0.201	4.546	0.000	0.519	1.307
c.LDLsp2#c.HOMAsp2	0.152	0.066	2.288	0.022	0.022	0.282
c.LDLsp2#c.sysPS2	-0.010	0.003	-2.950	0.003	-0.017	-0.003
c.sysPS2#c.HOMAsp2	-0.114	0.114	-1.001	0.317	-0.338	0.109
_cons	-7.666	0.617	-12.426	0.000	-8.875	-6.457

```
250 .
251 . poisson u2lAt1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> rmat(%5.3f) sformat(%8.3f)
```

```
Iteration 0: log pseudolikelihood = -189.11152
Iteration 1: log pseudolikelihood = -135.76136 (backed up)
Iteration 2: log pseudolikelihood = -72.824996
Iteration 3: log pseudolikelihood = -46.875924
Iteration 4: log pseudolikelihood = -33.535715
Iteration 5: log pseudolikelihood = -30.03631
Iteration 6: log pseudolikelihood = -29.958911
Iteration 7: log pseudolikelihood = -29.958555
Iteration 8: log pseudolikelihood = -29.958555
```

```
Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)     =     304.94
                                                    Prob > chi2      =     0.0000
Log pseudolikelihood = -29.958555                Pseudo R2       =     0.6414
```

	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
u2lAt1						
LDLsp2	0.880	0.167	-0.675	0.499	0.607	1.275
HOMAsp2	0.037	0.105	-1.169	0.242	0.000	9.244
sysPS2	2.492	0.501	4.546	0.000	1.681	3.694
c.LDLsp2#c.HOMAsp2	1.164	0.077	2.288	0.022	1.022	1.326
c.LDLsp2#c.sysPS2	0.990	0.003	-2.950	0.003	0.983	0.997
c.sysPS2#c.HOMAsp2	0.892	0.102	-1.001	0.317	0.713	1.116
_cons	0.000	0.000	-12.426	0.000	0.000	0.002

```
252 .
253 . estat gof
```

```
Deviance goodness-of-fit = 9.856737
Prob > chi2(143)         = 1.0000

Pearson goodness-of-fit  = 8.967082
Prob > chi2(143)         = 1.0000
```

```
254 .
255 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-83.54063	-29.95856	7	73.91711	94.99156

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

```

256 .
257 . predict est21,xb

258 .
259 . gen est21count=exp(est21)

260 .
261 . gen est21countround=round( est21count )

262 .
263 . tab est21countround

```

est21countround	Freq.	Percent	Cum.
0	132	88.00	88.00
1	12	8.00	96.00
2	4	2.67	98.67
3	2	1.33	100.00
Total	150	100.00	

```

264 .
265 . poisson u32At1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> (%5.3f) sformat(%8.3f)

```

```

Iteration 0: log pseudolikelihood = -92.482782
Iteration 1: log pseudolikelihood = -68.161589 (backed up)
Iteration 2: log pseudolikelihood = -40.839603
Iteration 3: log pseudolikelihood = -26.643171
Iteration 4: log pseudolikelihood = -26.370176
Iteration 5: log pseudolikelihood = -26.3679
Iteration 6: log pseudolikelihood = -26.3679

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(6)      =      175.47
                                                    Prob > chi2       =      0.0000
Log pseudolikelihood = -26.3679                    Pseudo R2        =      0.6134

```

u32At1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.302	0.211	1.427	0.154	-0.113	0.716
HOMAsp2	-5.214	3.196	-1.631	0.103	-11.478	1.050
sysPS2	0.422	0.288	1.467	0.142	-0.142	0.987
c.LDLsp2#c.HOMAsp2	0.002	0.102	0.019	0.984	-0.198	0.202
c.LDLsp2#c.sysPS2	-0.012	0.004	-2.749	0.006	-0.020	-0.003
c.sysPS2#c.HOMAsp2	0.132	0.149	0.888	0.375	-0.160	0.425
_cons	-7.363	0.761	-9.671	0.000	-8.855	-5.871

```
266 .
267 . poisson u32At1 LDLsp2 HOMAsp2 sysPS2 c.LDLsp2#c.HOMAsp2 c.LDLsp2#c.sysPS2 c.sysPS2#c.HOMAsp2
> rmat(%5.3f) sformat(%8.3f)
```

```
Iteration 0: log pseudolikelihood = -92.482782
Iteration 1: log pseudolikelihood = -68.161589 (backed up)
Iteration 2: log pseudolikelihood = -40.839603
Iteration 3: log pseudolikelihood = -26.643171
Iteration 4: log pseudolikelihood = -26.370176
Iteration 5: log pseudolikelihood = -26.3679
Iteration 6: log pseudolikelihood = -26.3679
```

```
Poisson regression                                Number of obs      =          150
                                                    Wald chi2(6)       =          175.47
                                                    Prob > chi2        =          0.0000
Log pseudolikelihood = -26.3679                  Pseudo R2         =          0.6134
```

u32At1	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	1.352	0.286	1.427	0.154	0.893	2.047
HOMAsp2	0.005	0.017	-1.631	0.103	0.000	2.859
sysPS2	1.526	0.439	1.467	0.142	0.868	2.683
c.LDLsp2#c.HOMAsp2	1.002	0.102	0.019	0.984	0.821	1.223
c.LDLsp2#c.sysPS2	0.988	0.004	-2.749	0.006	0.980	0.997
c.sysPS2#c.HOMAsp2	1.142	0.170	0.888	0.375	0.852	1.529
_cons	0.001	0.000	-9.671	0.000	0.000	0.003

```
268 .
269 . estat gof
```

```
Deviance goodness-of-fit = 10.89468
Prob > chi2(143)         = 1.0000
```

```
Pearson goodness-of-fit = 9.765011
Prob > chi2(143)         = 1.0000
```

```
270 .
271 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-68.20769	-26.3679	7	66.7358	87.81025

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

```

272 .
273 . predict est32,xb

274 .
275 . gen est32count=exp(est32)

276 .
277 . gen est32countround=round( est32count )

278 .
279 . tab est32countround

```

est32countround	Freq.	Percent	Cum.
0	135	90.00	90.00
1	12	8.00	98.00
2	2	1.33	99.33
3	1	0.67	100.00
Total	150	100.00	

```

280 .
281 . poisson mu20At1 LDLsp2 HOMAsp2 sysPS2 DiasPS2, vce(robust) cformat(%9.3f) pformat(%5.3f) sform

```

```

Iteration 0: log pseudolikelihood = -58.363157
Iteration 1: log pseudolikelihood = -39.187617 (backed up)
Iteration 2: log pseudolikelihood = -32.366721
Iteration 3: log pseudolikelihood = -16.111028
Iteration 4: log pseudolikelihood = -15.65286
Iteration 5: log pseudolikelihood = -15.630393
Iteration 6: log pseudolikelihood = -15.630329
Iteration 7: log pseudolikelihood = -15.630329

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(4)     =     263.12
                                                    Prob > chi2      =     0.0000
Log pseudolikelihood = -15.630329                Pseudo R2       =     0.6564

```

mu20At1	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.076	0.079	0.965	0.335	-0.079	0.231
HOMAsp2	-2.713	0.709	-3.829	0.000	-4.102	-1.324
sysPS2	-0.123	0.047	-2.593	0.010	-0.216	-0.030
DiasPS2	0.358	0.110	3.266	0.001	0.143	0.573
_cons	-7.034	0.501	-14.052	0.000	-8.015	-6.053

```

282 .
283 . poisson mu20At1 LDLsp2 HOMAsp2 sysPS2 DiasPS2, vce(robust) irr cformat(%9.3f) pformat(%5.3f) s

```

```

Iteration 0: log pseudolikelihood = -58.363157
Iteration 1: log pseudolikelihood = -39.187617 (backed up)
Iteration 2: log pseudolikelihood = -32.366721
Iteration 3: log pseudolikelihood = -16.111028
Iteration 4: log pseudolikelihood = -15.65286
Iteration 5: log pseudolikelihood = -15.630393
Iteration 6: log pseudolikelihood = -15.630329
Iteration 7: log pseudolikelihood = -15.630329

```

```

Poisson regression                                Number of obs    =      150
                                                    Wald chi2(4)     =     263.12
                                                    Prob > chi2      =     0.0000
Log pseudolikelihood = -15.630329                Pseudo R2       =     0.6564

```

$\mu_{20\Delta t1}$	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	1.079	0.085	0.965	0.335	0.924	1.260
HOMAsp2	0.066	0.047	-3.829	0.000	0.017	0.266
sysPS2	0.884	0.042	-2.593	0.010	0.806	0.970
DiasPS2	1.430	0.157	3.266	0.001	1.154	1.773
_cons	0.001	0.000	-14.052	0.000	0.000	0.002

284 .
285 . estat gof

Deviance goodness-of-fit = **6.646953**
Prob > chi2(**145**) = **1.0000**

Pearson goodness-of-fit = **7.358672**
Prob > chi2(**145**) = **1.0000**

286 .
287 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-45.48706	-15.63033	5	41.26066	56.31384

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

288 .
289 . predict est20,xb

290 .
291 . gen est20count=exp(est20)

292 .
293 . gen est20countround=round(est20count)

294 .
295 . tab est20countround

est20count round	Freq.	Percent	Cum.
0	140	93.33	93.33
1	8	5.33	98.67
2	2	1.33	100.00
Total	150	100.00	

296 .
297 . poisson $\mu_{31\Delta t1}$ LDLsp2 HOMAsp2 sysPS2 DiasPS2, vce(robust) cformat(%9.3f) pformat(%5.3f) sform

Iteration 0: log pseudolikelihood = **-42.819959**
Iteration 1: log pseudolikelihood = **-31.034271**
Iteration 2: log pseudolikelihood = **-17.167014**
Iteration 3: log pseudolikelihood = **-14.391228**
Iteration 4: log pseudolikelihood = **-14.18184**
Iteration 5: log pseudolikelihood = **-14.181524**
Iteration 6: log pseudolikelihood = **-14.181524**

Poisson regression

Number of obs	=	150
Wald chi2(4)	=	202.29
Prob > chi2	=	0.0000
Pseudo R2	=	0.6929

Log pseudolikelihood = -14.181524

$\mu_{31\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	0.145	0.070	2.079	0.038	0.008	0.282
HOMAsp2	-2.476	0.660	-3.754	0.000	-3.769	-1.183
sysPS2	-0.129	0.045	-2.899	0.004	-0.216	-0.042
DiasPS2	0.276	0.093	2.962	0.003	0.093	0.459
_cons	-7.584	0.688	-11.017	0.000	-8.934	-6.235

298 .

299 . poisson $\mu_{31\Delta t1}$ LDLsp2 HOMAsp2 sysPS2 DiasPS2, vce(robust) irr cformat(%9.3f) pformat(%5.3f) s

Iteration 0: log pseudolikelihood = -42.819959
 Iteration 1: log pseudolikelihood = -31.034271
 Iteration 2: log pseudolikelihood = -17.167014
 Iteration 3: log pseudolikelihood = -14.391228
 Iteration 4: log pseudolikelihood = -14.18184
 Iteration 5: log pseudolikelihood = -14.181524
 Iteration 6: log pseudolikelihood = -14.181524

Poisson regression

Number of obs	=	150
Wald chi2(4)	=	202.29
Prob > chi2	=	0.0000
Pseudo R2	=	0.6929

Log pseudolikelihood = -14.181524

$\mu_{31\Delta t1}$	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
LDLsp2	1.156	0.081	2.079	0.038	1.008	1.326
HOMAsp2	0.084	0.055	-3.754	0.000	0.023	0.306
sysPS2	0.879	0.039	-2.899	0.004	0.805	0.959
DiasPS2	1.318	0.123	2.962	0.003	1.098	1.582
_cons	0.001	0.000	-11.017	0.000	0.000	0.002

300 .

301 . estat gof

Deviance goodness-of-fit = 5.135637
 Prob > chi2(145) = 1.0000

Pearson goodness-of-fit = 6.094638
 Prob > chi2(145) = 1.0000

302 .

303 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-46.18021	-14.18152	5	38.36305	53.41622

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).


```

304 .
305 . predict est31,xb

306 .
307 . gen est31count=exp(est31)

308 .
309 . gen est31countround=round( est31count )

310 .
311 . tab est31countround

```

est31countround	Freq.	Percent	Cum.
0	140	93.33	93.33
1	7	4.67	98.00
2	3	2.00	100.00
Total	150	100.00	

```

312 .
313 . sum  $\lambda_{01\Delta t1}$ 

```

Variable	Obs	Mean	Std. Dev.	Min	Max
$\lambda_{01\Delta t1}$	150	.8	.8109982	0	3

```

314 .
315 . sum est01count

```

Variable	Obs	Mean	Std. Dev.	Min	Max
est01count	150	.8	.7876333	.000544	3.353649

```

316 .
317 . sum  $\lambda_{12\Delta t1}$ 

```

Variable	Obs	Mean	Std. Dev.	Min	Max
$\lambda_{12\Delta t1}$	150	.4466667	.6709371	0	3

```

318 .
319 . sum est12count

```

Variable	Obs	Mean	Std. Dev.	Min	Max
est12count	150	.4466667	.671353	4.96e-06	3.897766

```

320 .
321 . sum  $\lambda_{23\Delta t1}$ 

```

Variable	Obs	Mean	Std. Dev.	Min	Max
$\lambda_{23\Delta t1}$	150	.2466667	.5668311	0	3

322 .
323 . sum est23count

Variable	Obs	Mean	Std. Dev.	Min	Max
est23count	150	.2466667	.564407	1.75e-08	3.0675

324 .
325 . sum $\lambda_{34\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\lambda_{34\Delta t1}$	150	.1466667	.3549585	0	1

326 .
327 . sum est34count

Variable	Obs	Mean	Std. Dev.	Min	Max
est34count	150	.1466667	.3556577	3.28e-13	1.770857

328 .
329 . sum $\mu_{10\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mu_{10\Delta t1}$	150	.24	.5517513	0	3

330 .
331 . sum est10count

Variable	Obs	Mean	Std. Dev.	Min	Max
est10count	150	.24	.5604656	.0026678	3.512814

332 .
333 . sum $\mu_{21\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mu_{21\Delta t1}$	150	.2	.5181278	0	3

334 .
335 . sum est21count

Variable	Obs	Mean	Std. Dev.	Min	Max
est21count	150	.2	.5325411	.0004666	3.39939

336 .
337 . sum $\mu_{32\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mu_{32\Delta t1}$	150	.1533333	.4134755	0	2

338 .
339 . sum est32count

Variable	Obs	Mean	Std. Dev.	Min	Max
est32count	150	.1533333	.4162083	.0006232	2.973803

340 .
341 . sum $\mu_{20\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mu_{20\Delta t1}$	150	.0866667	.3051387	0	2

342 .
343 . sum est20count

Variable	Obs	Mean	Std. Dev.	Min	Max
est20count	150	.0866667	.3183499	.0008776	2.292223

344 .
345 . sum $\mu_{31\Delta t1}$

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mu_{31\Delta t1}$	150	.0866667	.3263931	0	2

346 .
347 . sum est31count

Variable	Obs	Mean	Std. Dev.	Min	Max
est31count	150	.0866667	.3357546	.0005069	2.191298

348 .
349 . histogram $\lambda_{01\Delta t1}$, discrete frequency
(start=0, width=1)

350 .
351 . histogram $\lambda_{12\Delta t1}$, discrete frequency
(start=0, width=1)

352 .
353 . histogram $\lambda_{23\Delta t1}$, discrete frequency
(start=0, width=1)

354 .
355 . histogram $\lambda_{34\Delta t1}$, discrete frequency
(start=0, width=1)

356 .
357 . histogram $\mu_{10\Delta t1}$, discrete frequency
(start=0, width=1)

```
358 .
359 . histogram p21Δt1 , discrete frequency
      (start=0, width=1)
```

```
360 .
361 . histogram p32Δt1 , discrete frequency
      (start=0, width=1)
```

```
362 .
363 . histogram p20Δt1 , discrete frequency
      (start=0, width=1)
```

```
364 .
365 . histogram p31Δt1 , discrete frequency
      (start=0, width=1)
```

```
366 .
367 . sum λ01Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
λ01Δt1	150	.8	.8109982	0	3

```
368 .
369 . di r(sd)^2/r(mean)
      .82214765
```

```
370 .
371 . sum λ12Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
λ12Δt1	150	.4466667	.6709371	0	3

```
372 .
373 . di r(sd)^2/r(mean)
      1.0078133
```

```
374 .
375 . sum λ23Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
λ23Δt1	150	.2466667	.5668311	0	3

```
376 .
377 . di r(sd)^2/r(mean)
      1.3025576
```

```
378 .
379 . sum λ34Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
λ34Δt1	150	.1466667	.3549585	0	1

```
380 .
381 . di r(sd)^2/r(mean)
.8590604
```

```
382 .
383 . sum p10Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
p10Δt1	150	.24	.5517513	0	3

```
384 .
385 . di r(sd)^2/r(mean)
1.2684564
```

```
386 .
387 . sum p21Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
p21Δt1	150	.2	.5181278	0	3

```
388 .
389 . di r(sd)^2/r(mean)
1.3422819
```

```
390 .
391 . sum p32Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
p32Δt1	150	.1533333	.4134755	0	2

```
392 .
393 . di r(sd)^2/r(mean)
1.1149694
```

```
394 .
395 . sum p20Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
p20Δt1	150	.0866667	.3051387	0	2

```
396 .
397 . di r(sd)^2/r(mean)
1.0743418
```

```
398 .
399 . sum p31Δt1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
p31Δt1	150	.0866667	.3263931	0	2

```
400 .
401 . di r(sd)^2/r(mean)
1.2292204
```

```
402 .
403 . corr HOMAsp1 HOMAsp2 LDLsp2 sysPS2 DiasPS2
(obs=150)
```

	HOMAsp1	HOMAsp2	LDLsp2	sysPS2	DiasPS2
HOMAsp1	1.0000				
HOMAsp2	0.8869	1.0000			
LDLsp2	0.8572	0.9893	1.0000		
sysPS2	0.8674	0.9908	0.9959	1.0000	
DiasPS2	0.8854	0.9950	0.9944	0.9929	1.0000

```
404 .
405 . poisson  $\lambda_{01\Delta t1}$ , vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)
```

```
Iteration 0: log pseudolikelihood = -171.27294
Iteration 1: log pseudolikelihood = -171.27294
```

```
Poisson regression                                Number of obs      =      150
                                                    Wald chi2(0)       =      .
                                                    Prob > chi2        =      .
Log pseudolikelihood = -171.27294                Pseudo R2         =      0.0000
```

$\lambda_{01\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-0.223	0.083	-2.696	0.007	-0.385	-0.061

```
406 .
407 . estat gof
```

```
Deviance goodness-of-fit = 149.2359
Prob > chi2(149)        = 0.4792

Pearson goodness-of-fit  = 122.5
Prob > chi2(149)        = 0.9449
```

```
408 .
409 . estat ic
```

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-171.2729	-171.2729	1	344.5459	347.5565

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

410 .
411 . poisson $\lambda_{12\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-130.82**
Iteration 1: log pseudolikelihood = **-130.82**

Poisson regression

Number of obs	=	150
Wald chi2(0)	=	.
Prob > chi2	=	.
Pseudo R2	=	-0.0000

Log pseudolikelihood = **-130.82**

$\lambda_{12\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-0.806	0.123	-6.571	0.000	-1.046	-0.566

412 .
413 . estat gof

Deviance goodness-of-fit = **146.133**
Prob > chi2(**149**) = **0.5511**

Pearson goodness-of-fit = **150.1642**
Prob > chi2(**149**) = **0.4578**

414 .
415 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-130.82	-130.82	1	263.64	266.6506

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

416 .
417 . poisson $\lambda_{23\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-95.145651**
Iteration 1: log pseudolikelihood = **-95.145651**

Poisson regression

Number of obs	=	150
Wald chi2(0)	=	.
Prob > chi2	=	.
Pseudo R2	=	0.0000

Log pseudolikelihood = **-95.145651**

$\lambda_{23\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-1.400	0.188	-7.460	0.000	-1.767	-1.032

418 .
419 . estat gof

Deviance goodness-of-fit = **127.8528**
Prob > chi2(**149**) = **0.8942**

Pearson goodness-of-fit = **194.0811**
Prob > chi2(**149**) = **0.0077**

420 .
421 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-95.14565	-95.14565	1	192.2913	195.3019

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

422 .
423 . poisson $\lambda_{34\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-64.231042**
Iteration 1: log pseudolikelihood = **-64.231042**

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -64.231042	Pseudo R2	=	0.0000

$\lambda_{34\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
_cons	-1.920	0.198	-9.714	0.000	-2.307 -1.532

424 .
425 . estat gof

Deviance goodness-of-fit = **84.46208**
Prob > chi2(**149**) = **1.0000**

Pearson goodness-of-fit = **128**
Prob > chi2(**149**) = **0.8925**

426 .
427 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-64.23104	-64.23104	1	130.4621	133.4727

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

428 .
429 . poisson $\mu_{10\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-93.039149**
Iteration 1: log pseudolikelihood = **-93.039149**

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -93.039149	Pseudo R2	=	0.0000

$\mu_{10\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-1.427	0.188	-7.603	0.000	-1.795	-1.059

430 .
431 . estat gof

Deviance goodness-of-fit = **124.2535**
Prob > chi2(**149**) = **0.9309**

Pearson goodness-of-fit = **189**
Prob > chi2(**149**) = **0.0148**

432 .
433 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-93.03915	-93.03915	1	188.0783	191.0889

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

434 .
435 . poisson $\mu_{21\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-83.540633**
Iteration 1: log pseudolikelihood = **-83.540633**

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -83.540633	Pseudo R2	=	0.0000

$\mu_{21\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-1.609	0.212	-7.609	0.000	-2.024	-1.195

436 .
437 . estat gof

Deviance goodness-of-fit = **117.0209**
Prob > chi2(**149**) = **0.9753**

Pearson goodness-of-fit = **200**
Prob > chi2(**149**) = **0.0034**

438 .
439 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-83.54063	-83.54063	1	169.0813	172.0919

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

440 .
441 . poisson $\mu_{32\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-68.207686**

Iteration 1: log pseudolikelihood = **-68.207686** (backed up)

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -68.207686	Pseudo R2	=	0.0000

$\mu_{32\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
_cons	-1.875	0.220	-8.517	0.000	-2.307 -1.444

442 .
443 . estat gof

Deviance goodness-of-fit = **94.57426**
Prob > chi2(**149**) = **0.9998**

Pearson goodness-of-fit = **166.1304**
Prob > chi2(**149**) = **0.1599**

444 .
445 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-68.20769	-68.20769	1	138.4154	141.426

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

446 .
447 . poisson $\mu_{20\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-45.487064**
Iteration 1: log pseudolikelihood = **-45.487064**

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -45.487064	Pseudo R2	=	0.0000

$\mu_{20\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-2.446	0.287	-8.507	0.000	-3.009	-1.882

448 .
449 . estat gof

Deviance goodness-of-fit = **66.36042**
Prob > chi2(**149**) = **1.0000**

Pearson goodness-of-fit = **160.0769**
Prob > chi2(**149**) = **0.2531**

450 .
451 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-45.48706	-45.48706	1	92.97413	95.98476

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

452 .
453 . poisson $\mu_{31\Delta t1}$, vce(robust) cformat(%9.3f) pformat(%5.3f) sformat(%8.3f)

Iteration 0: log pseudolikelihood = **-46.180212**
Iteration 1: log pseudolikelihood = **-46.180212**

Poisson regression	Number of obs	=	150
	Wald chi2(0)	=	.
	Prob > chi2	=	.
Log pseudolikelihood = -46.180212	Pseudo R2	=	0.0000

$\mu_{31\Delta t1}$	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
_cons	-2.446	0.307	-7.953	0.000	-3.048	-1.843

454 .

455 . estat gof

Deviance goodness-of-fit = **69.13301**
 Prob > chi2(**149**) = **1.0000**

Pearson goodness-of-fit = **183.1538**
 Prob > chi2(**149**) = **0.0299**

456 .

457 . estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	150	-46.18021	-46.18021	1	94.36042	97.37106

Note: N=Obs used in calculating BIC; see [\[R\] BIC note](#).

458 .