

Table A1: Univariate frequencies of HHs in each HH attribute covariate category for each survey.

Cars available	None	One	Two	=>Three	Unknown	
LFS	4808	7809	4665	1312	403	
LoS	1454	2697	1646	539	133	
OPN	1356	2559	1681	524	129	
Impaired individual in HH	No	Yes				
LFS	15935	3062				
LoS	5156	1313				
OPN	5158	1091				
Economic status	All emp.	All inact.	All unemp.	Mixed	Unknown	
LFS	8331	460	5505	4510	191	
LoS	2420	110	2216	1673	50	
OPN	2603	117	1885	1593	51	
Located in London / SE	No	Yes				
LFS	13630	5367				
LoS	4764	1705				
OPN	4444	1805				
HH Structure	1 Adult	1 adult, children	Couple, no children	Couple, children	>2 adults ± children	Unknown
LFS	5728	1294	4487	3166	4313	9
LoS	1801	307	1776	987	1597	1
OPN	1726	340	1675	1009	1495	4
Ill health individual in HH	No	Yes				
LFS	16749	2248				
LoS	5532	937				
OPN	5465	784				
English fluency in HH	Yes	No				
LFS	18838	159				
LoS	6439	30				
OPN	6202	47				
Retiree in HH	No	Yes				
LFS	13935	5062				
LoS	4122	2347				
OPN	4300	1949				
Tenure type	Owned	Rented / Other	Unknown			
LFS	11424	7172	401			
LoS	4371	1965	133			
OPN	4119	1997	133			
Accommodation type	House	Flat	Other	Unknown		
LFS	14377	4239	35	346		
LoS	5336	1023	13	97		
OPN	5115	1024	12	98		

Table A2: LFS call 5 (5±) and call 20 (20±) auxiliary covariate set partial unconditional by covariate CVs compared to no model selection set indicators (CV), as a percentage of no model selection indicators. Underlined ‘CV’ indicates no model selection and call 5 set 95% CIs do not overlap, underlined ‘5±’ indicates call 5 and call 20 set 95% CIs do not overlap, underlined ‘20±’ indicates no model selection and call 20 set 95% CIs do not overlap.

Cars				Tenure			Accommodation type			HH Economic Status			HH Structure		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	<u>0.077</u>	<u>-36.395</u>	-4.5E-10	<u>0.015</u>	<u>171.239</u>	-1.25E-09	0.091	1.0E-08	2.5E-09	0.292	2.7E-09	5.7E-10	0.083	-1.2E-10	-2.4E-12
2	<u>0.009</u>	<u>38.505</u>	9.4E-12	<u>0.026</u>	<u>71.748</u>	5.09E-12	0.085	4.7E-12	3.9E-12	0.171	-7.6E-12	5.8E-13	0.083	6.0E-13	-9.7E-13
3	<u>0.025</u>	<u>1.566</u>	3.2E-12	<u>0.029</u>	<u>36.627</u>	2.76E-12	0.072	-5.6E-13	2.1E-12	0.110	1.8E-12	-9.1E-13	0.089	3.7E-12	-4.3E-12
4	<u>0.037</u>	<u>-17.750</u>	4.0E-12	<u>0.031</u>	<u>15.588</u>	2.59E-12	0.067	-9.1E-13	2.1E-12	0.076	3.0E-12	2.6E-13	0.087	-6.0E-12	3.5E-12
5	<u>0.041</u>	<u>-19.922</u>	-2.5E-12	<u>0.030</u>	<u>6.586</u>	6.66E-13	0.064	3.7E-12	1.7E-12	0.058	-5.4E-12	2.2E-12	0.081	4.1E-12	6.1E-13
6	<u>0.043</u>	<u>-22.337</u>	-1.2E-12	<u>0.027</u>	<u>5.056</u>	-5.10E-12	0.058	2.9E-12	1.7E-12	0.045	1.3E-11	4.0E-12	0.080	-1.8E-12	-1.9E-12
7	<u>0.043</u>	<u>-21.232</u>	-1.4E-12	<u>0.024</u>	<u>17.239</u>	1.26E-12	0.057	-4.2E-12	-1.8E-12	0.039	1.4E-11	-4.1E-12	0.077	-1.5E-12	4.0E-12
8	<u>0.041</u>	<u>-18.611</u>	6.4E-12	<u>0.022</u>	<u>17.427</u>	9.00E-13	0.054	-1.7E-12	1.3E-12	0.033	3.8E-11	4.9E-12	0.075	-2.9E-12	1.9E-12
9	<u>0.039</u>	<u>-17.868</u>	3.8E-12	<u>0.022</u>	<u>17.526</u>	1.85E-12	0.054	-3.2E-12	1.7E-12	0.031	2.7E-11	3.5E-12	0.072	-1.6E-12	-1.4E-12
10	<u>0.039</u>	<u>-18.709</u>	4.9E-12	<u>0.023</u>	<u>9.649</u>	1.74E-12	0.053	-1.0E-11	1.3E-12	0.029	2.4E-11	3.1E-12	0.070	3.0E-13	3.6E-12
11	<u>0.039</u>	<u>-19.250</u>	-2.8E-12	<u>0.023</u>	<u>9.426</u>	-8.69E-12	0.053	-5.9E-12	-4.7E-12	0.028	3.4E-11	2.2E-12	0.069	1.4E-13	1.4E-13
12	<u>0.039</u>	<u>-19.149</u>	-1.3E-12	<u>0.023</u>	<u>8.025</u>	-1.27E-12	0.053	-5.3E-12	3.4E-12	0.028	3.5E-11	1.1E-12	0.069	-1.4E-11	-2.6E-12
13	<u>0.039</u>	<u>-19.055</u>	-2.5E-13	<u>0.024</u>	<u>6.320</u>	0.00E+00	0.053	-2.0E-13	-3.8E-13	0.027	3.8E-11	1.1E-12	0.069	-5.4E-12	2.8E-12
14	<u>0.039</u>	<u>-18.493</u>	-2.1E-12	<u>0.023</u>	<u>6.410</u>	5.95E-12	0.053	4.2E-12	3.4E-12	0.027	4.6E-11	-3.0E-12	0.069	2.2E-12	-8.7E-13
15	<u>0.039</u>	<u>-18.791</u>	2.8E-12	<u>0.023</u>	<u>6.615</u>	-8.58E-13	0.053	-4.0E-12	2.5E-12	0.027	3.0E-11	2.2E-12	0.069	5.9E-13	4.4E-12
16	<u>0.039</u>	<u>-19.057</u>	-3.6E-12	<u>0.023</u>	<u>7.683</u>	-3.04E-12	0.052	-1.1E-11	-4.2E-12	0.027	3.1E-11	-8.6E-12	0.068	-7.0E-12	-5.0E-12
17	<u>0.039</u>	<u>-19.335</u>	-1.8E-12	<u>0.023</u>	<u>7.564</u>	3.47E-12	0.053	-3.2E-12	-5.7E-13	0.027	4.1E-11	-3.8E-13	0.069	2.8E-13	-8.7E-13
18	<u>0.039</u>	<u>-19.335</u>	-1.8E-12	<u>0.023</u>	<u>7.564</u>	3.47E-12	0.053	-3.2E-12	-5.7E-13	0.027	4.1E-11	-3.8E-13	0.069	2.8E-13	-8.7E-13
19	<u>0.039</u>	<u>-19.335</u>	-1.8E-12	<u>0.023</u>	<u>7.564</u>	3.47E-12	0.053	-3.2E-12	-5.7E-13	0.027	4.1E-11	-3.8E-13	0.069	2.8E-13	-8.7E-13
20	<u>0.039</u>	<u>-19.335</u>	-1.8E-12	<u>0.023</u>	<u>7.564</u>	3.47E-12	0.053	-3.2E-12	-5.7E-13	0.027	4.1E-11	-3.8E-13	0.069	2.8E-13	-8.7E-13

Ill Health individual in HH				Retiree in HH			Located in London / SE			Impaired individual in HH			English fluency in HH		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	<u>0.125</u>	<u>-35.234</u>	6.4E-10	0.291	2.2E-09	4.8E-10	0.188	9.0E-09	2.5E-09	<u>0.156</u>	<u>-26.907</u>	<u>-9.203</u>	<u>0.023</u>	<u>-82.999</u>	<u>-97.252</u>
2	<u>0.054</u>	<u>-14.028</u>	1.9E-13	0.180	-3.3E-12	1.7E-12	0.104	0.0E+00	2.9E-12	<u>0.082</u>	<u>-19.368</u>	<u>-13.527</u>	<u>0.006</u>	<u>-38.008</u>	<u>-48.880</u>
3	<u>0.027</u>	<u>3.578</u>	-1.5E-12	0.116	3.4E-12	1.7E-12	0.077	5.0E-12	-1.2E-12	<u>0.046</u>	<u>-9.351</u>	<u>-9.871</u>	<u>0.010</u>	<u>-51.991</u>	<u>-54.436</u>
4	<u>0.013</u>	<u>36.974</u>	-3.8E-12	0.080	3.1E-12	2.1E-12	0.066	-1.2E-11	-5.8E-12	<u>0.027</u>	<u>3.281</u>	<u>-7.444</u>	<u>0.013</u>	<u>-62.075</u>	<u>-59.865</u>
5	<u>0.003</u>	<u>368.442</u>	4.3E-11	0.057	-1.1E-12	2.3E-12	0.059	7.2E-12	6.7E-13	<u>0.016</u>	<u>28.568</u>	<u>-9.362</u>	<u>0.012</u>	<u>-61.750</u>	<u>-57.233</u>
6	<u>0.004</u>	<u>134.208</u>	8.9E-12	0.042	8.0E-12	3.6E-12	0.053	1.3E-11	4.3E-12	<u>0.009</u>	<u>65.266</u>	<u>-20.313</u>	<u>0.008</u>	<u>-80.915</u>	<u>-72.237</u>
7	<u>0.007</u>	<u>3.724</u>	-7.1E-13	0.036	5.9E-12	-6.7E-12	0.054	2.8E-12	3.5E-12	<u>0.005</u>	<u>166.057</u>	<u>-11.537</u>	<u>0.006</u>	<u>-72.746</u>	<u>-63.159</u>
8	<u>0.009</u>	<u>-40.313</u>	5.4E-12	0.031	2.8E-11	5.2E-12	0.055	3.6E-12	5.8E-12	<u>0.001</u>	<u>703.198</u>	<u>38.376</u>	<u>0.007</u>	<u>-73.115</u>	<u>-65.206</u>
9	<u>0.010</u>	<u>-50.660</u>	6.3E-12	0.028	2.5E-11	4.7E-12	0.054	-5.4E-12	-6.5E-12	<u>0.001</u>	<u>1368.491</u>	<u>25.369</u>	<u>0.007</u>	<u>-75.373</u>	<u>-68.202</u>
10	<u>0.011</u>	<u>-60.596</u>	1.0E-11	0.026	2.1E-11	4.9E-12	0.054	2.8E-12	-9.2E-13	<u>0.000</u>	<u>1622.950</u>	<u>-44.342</u>	<u>0.008</u>	<u>-75.272</u>	<u>-67.555</u>
11	<u>0.011</u>	<u>-65.443</u>	-2.3E-11	0.025	2.0E-11	-8.0E-13	0.054	9.6E-12	-2.0E-12	<u>0.001</u>	<u>671.234</u>	<u>-12.519</u>	<u>0.007</u>	<u>-71.469</u>	<u>-62.735</u>
12	<u>0.011</u>	<u>-65.633</u>	-1.0E-11	0.025	2.7E-11	7.7E-12	0.055	7.4E-13	-1.3E-12	<u>0.001</u>	<u>621.635</u>	<u>-17.668</u>	<u>0.007</u>	<u>-71.350</u>	<u>-62.559</u>
13	<u>0.011</u>	<u>-66.711</u>	0.0E+00	0.024	2.7E-11	-7.4E-12	0.055	-2.7E-12	-2.0E-12	<u>0.001</u>	<u>535.941</u>	<u>-10.729</u>	<u>0.007</u>	<u>-71.573</u>	<u>-62.735</u>
14	<u>0.011</u>	<u>-65.742</u>	-1.4E-11	0.024	3.1E-11	3.3E-12	0.055	7.3E-12	1.3E-12	<u>0.001</u>	<u>634.962</u>	<u>-13.254</u>	<u>0.007</u>	<u>-71.597</u>	<u>-63.126</u>
15	<u>0.011</u>	<u>-66.994</u>	4.5E-12	0.024	1.0E-11	-5.0E-12	0.055	8.0E-12	2.0E-12	<u>0.001</u>	<u>534.712</u>	<u>-12.133</u>	<u>0.007</u>	<u>-71.553</u>	<u>-63.045</u>
16	<u>0.011</u>	<u>-67.418</u>	-5.3E-12	0.024	1.7E-11	-5.4E-12	0.055	-5.4E-13	-3.1E-12	<u>0.001</u>	<u>464.425</u>	<u>-15.523</u>	<u>0.007</u>	<u>-71.940</u>	<u>-63.390</u>
17	<u>0.011</u>	<u>-68.063</u>	4.4E-12	0.024	4.0E-11	4.2E-12	0.055	6.9E-12	3.1E-12	<u>0.001</u>	<u>405.274</u>	<u>-16.078</u>	<u>0.007</u>	<u>-68.114</u>	<u>-58.313</u>
18	<u>0.011</u>	<u>-68.063</u>	4.4E-12	0.024	4.0E-11	4.2E-12	0.055	6.9E-12	3.1E-12	<u>0.001</u>	<u>405.274</u>	<u>-16.078</u>	<u>0.007</u>	<u>-68.114</u>	<u>-58.313</u>
19	<u>0.011</u>	<u>-68.063</u>	4.4E-12	0.024	4.0E-11	4.2E-12	0.055	6.9E-12	3.1E-12	<u>0.001</u>	<u>405.274</u>	<u>-16.078</u>	<u>0.007</u>	<u>-68.114</u>	<u>-58.313</u>
20	<u>0.011</u>	<u>-68.063</u>	4.4E-12	0.024	4.0E-11	4.2E-12	0.055	6.9E-12	3.1E-12	<u>0.001</u>	<u>405.274</u>	<u>-16.078</u>	<u>0.007</u>	<u>-68.114</u>	<u>-58.313</u>

Table A2 continued: LFS conditional by covariate CVs.

Cars				Tenure		Accommodation type			HH Economic Status			HH Structure			
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.022		<u>8.777</u>	0.043		<u>3.992</u>	<u>0.055</u>	<u>-20.877</u>	1.117	<u>0.089</u>	<u>51.764</u>	6.642	<u>0.065</u>	3.188	<u>3.752</u>
2	0.009		-3.116	0.022		<u>3.670</u>	<u>0.041</u>	<u>-5.271</u>	1.760	<u>0.060</u>	<u>32.679</u>	6.659	<u>0.078</u>	<u>14.756</u>	1.803
3	0.010		1.186	0.017		2.719	<u>0.028</u>	-2.705	1.951	<u>0.040</u>	<u>28.161</u>	6.356	<u>0.082</u>	<u>13.758</u>	1.284
4	0.014		2.569	0.015		2.434	<u>0.026</u>	7.594	2.213	<u>0.031</u>	<u>16.221</u>	5.327	<u>0.074</u>	<u>16.835</u>	1.134
5	0.015		2.545	0.015		2.754	<u>0.024</u>	<u>12.423</u>	2.194	<u>0.027</u>	7.126	5.185	<u>0.068</u>	<u>17.275</u>	0.880
6	0.018		2.435	0.016		2.880	<u>0.021</u>	<u>13.020</u>	2.168	<u>0.024</u>	<u>-1.153</u>	5.816	<u>0.065</u>	<u>17.619</u>	0.887
7	0.017		2.559	0.017		2.278	<u>0.021</u>	8.218	2.018	<u>0.019</u>	<u>-5.277</u>	5.173	<u>0.062</u>	<u>17.909</u>	0.921
8	0.016		2.940	0.017		2.067	0.019	5.697	2.116	<u>0.016</u>	<u>-9.844</u>	4.155	<u>0.060</u>	<u>16.517</u>	0.829
9	0.015	Not in covariate set	3.036	0.016	Not in covariate set	2.043	0.020	5.621	2.147	<u>0.016</u>	<u>-9.706</u>	4.312	<u>0.058</u>	<u>15.905</u>	0.803
10	0.015		3.138	0.015		2.230	<u>0.020</u>	8.389	2.179	<u>0.015</u>	<u>-14.931</u>	4.215	<u>0.056</u>	<u>15.760</u>	0.756
11	0.015		2.935	0.014		2.266	<u>0.020</u>	9.278	2.082	<u>0.014</u>	<u>-17.042</u>	4.414	<u>0.055</u>	<u>16.081</u>	0.811
12	0.016		2.930	0.014		2.371	<u>0.020</u>	9.544	2.089	<u>0.014</u>	<u>-17.350</u>	4.359	<u>0.055</u>	<u>15.820</u>	0.802
13	0.015		2.957	0.014		2.446	<u>0.020</u>	<u>10.059</u>	2.095	<u>0.014</u>	<u>-17.752</u>	4.400	<u>0.055</u>	<u>15.789</u>	0.792
14	0.015		2.964	0.014		2.446	<u>0.020</u>	<u>9.626</u>	2.103	<u>0.014</u>	<u>-16.964</u>	4.404	<u>0.055</u>	<u>15.596</u>	0.787
15	0.015		2.976	0.014		2.427	<u>0.020</u>	9.580	2.105	<u>0.014</u>	<u>-17.680</u>	4.402	<u>0.055</u>	<u>15.752</u>	0.788
16	0.015		2.989	0.014		2.379	<u>0.019</u>	9.522	2.116	<u>0.014</u>	<u>-17.808</u>	4.263	<u>0.054</u>	<u>15.755</u>	0.781
17	0.015		2.813	0.014		2.451	<u>0.020</u>	<u>9.621</u>	2.023	<u>0.014</u>	<u>-18.122</u>	4.310	<u>0.054</u>	<u>16.063</u>	0.842
18	0.015		2.813	0.014		2.451	<u>0.020</u>	<u>9.621</u>	2.023	<u>0.014</u>	<u>-18.122</u>	4.310	<u>0.054</u>	<u>16.063</u>	0.842
19	0.015		2.813	0.014		2.451	<u>0.020</u>	<u>9.621</u>	2.023	<u>0.014</u>	<u>-18.122</u>	4.310	<u>0.054</u>	<u>16.063</u>	0.842
20	0.015		2.813	0.014		2.451	<u>0.020</u>	<u>9.621</u>	2.023	<u>0.014</u>	<u>-18.122</u>	4.310	<u>0.054</u>	<u>16.063</u>	0.842

Ill Health individual in HH				Retiree in HH		Located in London / SE			Impaired individual in HH			English fluency in HH			
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.020		<u>92.956</u>	<u>0.105</u>	-2.690	3.215	<u>0.158</u>	5.886	1.884	0.019			0.023		
2	0.003		<u>107.121</u>	0.070	6.369	3.561	<u>0.079</u>	<u>6.076</u>	2.310	0.014			0.003		
3	0.004		<u>-62.742</u>	<u>0.047</u>	7.406	3.263	<u>0.058</u>	5.491	2.047	0.006			0.005		
4	0.005		-6.605	<u>0.034</u>	9.103	3.078	<u>0.049</u>	5.634	2.022	0.002			0.007		
5	0.009		<u>11.865</u>	<u>0.024</u>	<u>11.057</u>	3.094	<u>0.044</u>	5.344	1.956	0.002			0.006		
6	0.012		<u>12.035</u>	<u>0.019</u>	<u>12.594</u>	3.301	<u>0.040</u>	5.400	2.027	0.002			0.006		
7	0.011		<u>21.761</u>	<u>0.018</u>	<u>9.534</u>	2.880	<u>0.041</u>	5.183	1.721	0.001			0.004		
8	0.011		<u>29.667</u>	<u>0.018</u>	<u>8.946</u>	2.577	<u>0.043</u>	4.923	1.611	0.001			0.004		
9	0.011	Not in covariate set	<u>27.183</u>	<u>0.016</u>	<u>9.215</u>	2.689	<u>0.042</u>	4.948	1.700	0.000	Not in covariate set	Not in covariate set	0.005	Not in covariate set	Not in covariate set
10	0.011		<u>27.611</u>	<u>0.016</u>	<u>11.539</u>	2.678	<u>0.042</u>	4.840	1.710	0.000			0.005		
11	0.012		<u>26.800</u>	<u>0.015</u>	<u>11.917</u>	2.698	<u>0.042</u>	4.793	1.669	0.000			0.004		
12	0.011		<u>27.294</u>	<u>0.015</u>	<u>12.423</u>	2.675	<u>0.043</u>	4.756	1.662	0.000			0.004		
13	0.012		<u>26.827</u>	<u>0.015</u>	<u>13.114</u>	2.700	<u>0.043</u>	4.715	1.670	0.000			0.004		
14	0.012		<u>26.935</u>	<u>0.014</u>	<u>12.840</u>	2.698	<u>0.043</u>	4.712	1.673	0.000			0.004		
15	0.012		<u>26.979</u>	<u>0.015</u>	<u>12.721</u>	2.696	<u>0.044</u>	4.731	1.672	0.000			0.004		
16	0.012		<u>27.445</u>	<u>0.014</u>	<u>12.798</u>	2.671	<u>0.043</u>	4.712	1.668	0.000			0.004		
17	0.012		<u>27.517</u>	<u>0.014</u>	<u>12.783</u>	2.643	<u>0.043</u>	4.672	1.607	0.000			0.004		
18	0.012		<u>27.517</u>	<u>0.014</u>	<u>12.783</u>	2.643	<u>0.043</u>	4.672	1.607	0.000			0.004		
19	0.012		<u>27.517</u>	<u>0.014</u>	<u>12.783</u>	2.643	<u>0.043</u>	4.672	1.607	0.000			0.004		
20	0.012		<u>27.517</u>	<u>0.014</u>	<u>12.783</u>	2.643	<u>0.043</u>	4.672	1.607	0.000			0.004		

Table A3: LOS call 5 (5±) and call 20 (20±) auxiliary covariate set partial unconditional by covariate CVs compared to no model selection set indicators (CV), as a percentage of no model selection indicators. Underlined ‘CV’ indicates no model selection and call 5 set 95% CIs do not overlap, underlined ‘5±’ indicates call 5 and call 20 set 95% CIs do not overlap, underlined ‘20±’ indicates no model selection and call 20 set 95% CIs do not overlap.

Cars				Tenure			Accommodation type			HH Economic Status			HH Structure		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.238	-35.730	4.2E-13	0.015	-6.5E-12	6.6E-13	0.065	1.1E-12	-70.751	0.392	7.6E-13	-5.1E-13	0.266	-7.5E-13	7.5E-13
2	0.076	-0.348	-2.2E-12	0.062	-4.8E-13	-6.5E-13	0.072	1.4E-13	-46.468	0.319	-3.1E-13	-3.1E-13	0.179	0.0E+00	-1.1E-12
3	0.056	-31.356	3.6E-13	0.074	-6.8E-13	0.0E+00	0.063	7.9E-13	-31.236	0.213	-4.7E-13	0.0E+00	0.135	0.0E+00	-7.4E-13
4	0.041	-47.072	-4.2E-12	0.076	1.0E-12	3.8E-13	0.077	1.4E-12	-42.090	0.146	0.0E+00	0.0E+00	0.100	0.0E+00	-1.0E-12
5	0.042	-54.229	9.5E-13	0.069	-2.8E-13	-7.2E-13	0.072	8.5E-13	-41.301	0.113	0.0E+00	-8.8E-13	0.079	8.7E-13	2.4E-13
6	0.046	-56.585	4.2E-13	0.064	-6.3E-13	-3.3E-13	0.066	1.5E-13	-37.960	0.094	1.7E-12	7.4E-13	0.070	2.8E-13	1.1E-12
7	0.043	-48.858	-2.1E-12	0.062	-8.1E-13	6.4E-13	0.063	1.5E-13	-36.386	0.081	2.5E-12	3.5E-12	0.065	4.5E-13	-6.2E-13
8	0.045	-49.433	-2.0E-12	0.058	-1.6E-12	-1.2E-12	0.061	-4.9E-13	-35.828	0.075	-9.4E-13	-8.1E-13	0.064	4.8E-13	-7.8E-13
9	0.044	-48.787	-3.8E-12	0.055	1.1E-12	-5.4E-13	0.057	7.0E-13	-32.960	0.070	4.4E-12	-1.7E-12	0.064	-1.7E-12	3.4E-12
10	0.044	-46.210	2.0E-12	0.055	1.8E-13	-3.6E-13	0.056	2.7E-12	-32.538	0.068	8.8E-13	5.9E-13	0.062	1.3E-12	8.1E-13
11	0.043	-44.493	1.6E-12	0.055	-3.6E-13	-3.6E-13	0.054	1.8E-13	-30.507	0.066	2.6E-12	1.2E-12	0.061	-3.3E-13	9.8E-13
12	0.042	-42.828	7.2E-13	0.054	-9.3E-13	5.7E-13	0.053	-1.3E-12	-31.608	0.064	-2.6E-12	-7.8E-13	0.060	3.2E-13	-2.3E-12
13	0.042	-42.725	2.6E-12	0.054	1.3E-12	1.5E-12	0.053	7.6E-13	-31.156	0.065	2.0E-12	3.1E-12	0.060	1.0E-12	1.7E-12
14	0.041	-43.774	-7.3E-13	0.053	5.6E-13	-1.1E-12	0.052	7.8E-13	-30.408	0.064	1.5E-13	-1.6E-12	0.059	-1.2E-12	-6.8E-13
15	0.041	-43.215	9.9E-13	0.053	-1.5E-12	9.5E-13	0.052	0.0E+00	-30.213	0.063	9.4E-13	2.0E-12	0.058	1.5E-12	-1.9E-12
16	0.041	-43.263	2.7E-12	0.053	1.1E-12	7.6E-13	0.051	3.1E-12	-30.072	0.062	2.6E-12	-4.8E-13	0.059	6.7E-13	1.5E-12
17	0.041	-42.493	1.2E-12	0.052	7.7E-13	2.3E-12	0.051	-1.4E-12	-31.424	0.062	-2.9E-12	-8.1E-13	0.059	2.0E-12	6.7E-13
18	0.041	-42.195	-2.6E-13	0.052	3.9E-13	-1.9E-13	0.051	5.8E-13	-31.439	0.062	3.3E-13	-1.5E-12	0.058	-8.5E-13	1.0E-12
19	0.041	-43.938	0.0E+00	0.051	2.7E-12	3.9E-13	0.051	3.0E-12	-31.114	0.062	4.8E-13	1.6E-13	0.058	-3.5E-13	1.7E-12
20	0.041	-43.996	9.8E-13	0.051	2.0E-13	-5.8E-13	0.051	1.4E-12	-31.210	0.062	2.9E-12	2.4E-12	0.058	1.0E-12	5.1E-13
Ill Health individual in HH				Retiree in HH			Located in London / SE			Impaired individual in HH			English fluency in HH		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.119	-28.473	8.920	0.394	-2.5E-13	-1.0E-12	0.178	5.6E-13	-1.7E-12	0.204	-34.579	-4.9E-13	0.003	-79.499	157.571
2	0.064	4.739	6.173	0.342	-5.8E-13	-2.9E-13	0.088	-1.7E-12	-8.0E-13	0.110	-2.615	0.0E+00	0.004	-86.895	-84.695
3	0.034	25.829	12.650	0.237	-8.4E-13	0.0E+00	0.080	-1.4E-12	-1.0E-12	0.064	10.416	3.0E-13	0.015	-73.968	-74.128
4	0.020	39.069	13.876	0.167	0.0E+00	0.0E+00	0.065	-9.4E-13	-1.4E-12	0.041	17.747	-1.2E-12	0.019	-73.669	-74.302
5	0.011	95.991	41.668	0.133	7.5E-13	0.0E+00	0.063	1.6E-12	-3.1E-13	0.029	30.024	0.0E+00	0.020	-71.279	-71.009
6	0.003	383.214	130.264	0.111	0.0E+00	0.0E+00	0.059	-1.4E-12	6.9E-13	0.017	79.899	-5.8E-13	0.022	-74.431	-72.382
7	0.001	2142.494	682.069	0.098	1.5E-12	2.1E-12	0.062	2.1E-12	5.2E-12	0.013	114.074	5.6E-12	0.023	-76.787	-74.479
8	0.000	13997.01	4833.153	0.089	6.9E-13	4.5E-13	0.060	-2.8E-12	1.7E-13	0.012	116.628	0.0E+00	0.021	-74.820	-71.640
9	0.001	1648.503	351.214	0.085	4.3E-12	-1.1E-12	0.058	-1.4E-12	-2.4E-12	0.009	157.597	-2.4E-12	0.018	-72.772	-69.174
10	0.002	577.818	74.767	0.082	9.8E-13	3.7E-13	0.059	5.1E-13	3.4E-12	0.009	157.903	3.1E-12	0.019	-72.806	-69.885
11	0.004	205.747	-57.646	0.079	1.2E-13	0.0E+00	0.058	-1.7E-13	1.0E-12	0.006	240.914	8.2E-12	0.019	-73.551	-70.287
12	0.005	111.544	-83.814	0.077	-2.1E-12	0.0E+00	0.057	-1.9E-12	2.8E-12	0.005	310.755	-4.7E-12	0.019	-74.037	-70.601
13	0.005	128.294	-79.204	0.076	1.8E-12	2.8E-12	0.057	3.7E-12	2.5E-12	0.005	294.591	4.0E-12	0.019	-74.372	-70.832
14	0.005	94.643	-91.214	0.075	-1.2E-12	-9.2E-13	0.055	-3.7E-13	-3.7E-12	0.004	367.299	-1.8E-12	0.019	-74.506	-70.855
15	0.005	98.961	-91.789	0.075	-4.0E-13	1.3E-12	0.054	2.0E-12	3.9E-12	0.004	365.303	-1.1E-12	0.019	-74.630	-70.974
16	0.006	81.141	-97.939	0.075	2.4E-12	-8.2E-13	0.053	2.6E-12	5.6E-13	0.004	408.378	-2.1E-11	0.019	-74.809	-71.087
17	0.006	82.921	-95.445	0.074	-1.1E-12	-5.2E-13	0.053	-3.6E-13	-1.3E-12	0.003	508.405	-1.9E-11	0.019	-75.139	-71.771
18	0.006	80.244	-94.491	0.074	5.4E-13	-1.7E-12	0.053	-7.6E-13	1.8E-13	0.003	529.502	-2.8E-11	0.020	-75.059	-71.692
19	0.006	74.807	-92.321	0.074	8.3E-13	-1.3E-13	0.053	-3.8E-13	3.7E-13	0.003	578.157	2.0E-12	0.020	-75.293	-71.760
20	0.006	69.355	-90.846	0.074	1.4E-12	9.4E-13	0.052	2.3E-12	1.5E-12	0.003	631.542	2.4E-11	0.020	-75.230	-71.712

Table A3 continued: LOS conditional by covariate CVs.

Cars				Tenure			Accommodation type			HH Economic Status			HH Structure		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.128		3.261	0.008	396.665	99.826	0.051	2.40		0.066	66.397	3.924	0.109	-6.881	4.469
2	0.033		12.959	0.002	311.646	353.487	0.035	14.67		0.084	15.366	5.410	0.070	15.251	3.183
3	0.030		13.093	0.022	55.645	40.249	0.021	21.81		0.063	11.557	4.722	0.059	13.922	3.119
4	0.026		26.632	0.023	57.875	59.249	0.034	19.70		0.046	7.960	6.385	0.043	19.085	5.007
5	0.024		24.459	0.022	51.146	54.345	0.031	18.86		0.039	3.389	5.591	0.036	21.575	5.941
6	0.027		21.540	0.020	62.796	52.261	0.026	23.18		0.033	-4.500	6.110	0.030	31.845	7.819
7	0.023		23.737	0.020	55.133	49.213	0.024	23.65		0.027	-8.912	6.471	0.029	34.309	9.189
8	0.026		22.735	0.018	64.213	47.945	0.023	26.56		0.028	-9.206	6.219	0.031	33.609	8.346
9	0.024	Not in covariate set	20.215	0.017	61.702	43.334	0.019	27.24	Not in covariate set	0.024	-12.535	6.299	0.032	33.158	8.197
10	0.023		20.482	0.018	57.640	43.331	0.019	25.80		0.025	-10.075	5.396	0.033	31.600	8.254
11	0.022		19.345	0.019	51.996	39.258	0.017	26.43		0.026	-10.467	5.031	0.033	30.689	7.790
12	0.021		19.576	0.018	46.762	41.044	0.017	24.16		0.025	-11.099	4.844	0.034	29.774	7.576
13	0.021		19.445	0.019	46.627	40.447	0.017	24.56		0.026	-10.485	4.906	0.033	30.551	7.728
14	0.021		19.225	0.018	51.257	42.045	0.016	25.53		0.026	-10.893	4.588	0.032	31.387	7.875
15	0.021		19.426	0.018	51.234	41.776	0.016	25.64		0.027	-10.053	4.490	0.033	30.794	7.774
16	0.021		19.010	0.018	51.304	41.625	0.016	25.81		0.026	-10.928	4.467	0.033	30.955	7.684
17	0.020		19.780	0.017	51.379	43.074	0.017	24.77		0.025	-11.156	4.824	0.033	30.042	7.559
18	0.020		20.176	0.017	51.789	43.120	0.017	24.85		0.025	-10.972	4.819	0.033	29.862	7.581
19	0.021		19.952	0.016	58.161	46.411	0.016	25.95		0.025	-11.736	4.786	0.033	30.830	7.681
20	0.128		3.261	0.008	396.665	99.826	0.051	2.40		0.066	66.397	3.924	0.033	31.037	7.681

Ill Health individual in HH				Retiree in HH			Located in London / SE			Impaired individual in HH			English fluency in HH		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.014			0.113	10.412	11.170	0.155	6.357	7.101	0.063		8.922	0.003		
2	0.005			0.099	12.736	9.538	0.061	6.709	12.176	0.006		-37.556	0.005		
3	0.005			0.070	12.528	8.802	0.058	6.333	11.639	0.002		167.686	0.008		
4	0.003			0.049	12.124	10.047	0.044	6.700	19.895	0.004		73.373	0.011		
5	0.005			0.042	13.753	10.923	0.045	6.606	18.710	0.004		114.303	0.011		
6	0.005			0.036	14.271	10.981	0.042	6.491	17.578	0.008		71.226	0.012		
7	0.004			0.033	14.065	10.727	0.047	6.227	15.212	0.008		64.833	0.014		
8	0.005			0.029	14.279	11.320	0.045	6.496	15.466	0.007		74.278	0.012		
9	0.004	Not in covariate set	Not in covariate set	0.029	14.205	10.814	0.044	6.202	14.367	0.009	Not in covariate set	62.225	0.010	Not in covariate set	Not in covariate set
10	0.005			0.028	14.750	11.184	0.045	6.159	13.909	0.008		76.591	0.010		
11	0.006			0.027	14.845	11.164	0.045	5.901	12.887	0.009		76.559	0.011		
12	0.006			0.026	15.201	11.586	0.045	5.758	12.916	0.008		84.703	0.011		
13	0.006			0.026	15.136	11.475	0.044	5.788	12.833	0.008		82.793	0.011		
14	0.006			0.026	15.113	11.503	0.043	5.721	12.546	0.009		83.404	0.011		
15	0.006			0.026	14.953	11.327	0.043	5.732	12.513	0.009		80.810	0.011		
16	0.006			0.026	15.023	11.327	0.042	5.747	12.578	0.009		81.075	0.011		
17	0.006			0.026	14.703	11.179	0.042	5.635	12.888	0.009		72.596	0.011		
18	0.006			0.026	14.637	11.231	0.041	5.614	12.970	0.010		72.695	0.011		
19	0.006			0.026	14.585	11.173	0.041	5.636	12.773	0.010		72.408	0.011		
20	0.006			0.026	14.685	11.272	0.041	5.624	12.954	0.010		72.738	0.011		

Table A4: OPN call 5 (5±) and call 20 (20±) auxiliary covariate set partial unconditional by covariate CVs compared to no model selection set indicators (CV), as a percentage of no model selection indicators. Underlined ‘CV’ indicates no model selection and call 5 set 95% CIs do not overlap, underlined ‘5±’ indicates call 5 and call 20 set 95% CIs do not overlap, underlined ‘20±’ indicates no model selection and call 20 set 95% CIs do not overlap.

Cars				Tenure			Accommodation type			HH Economic Status			HH Structure		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.116	1.9E-07	4.7E-07	0.006	686.098	491.408	0.063	1.1E-06	-64.111	0.448	-1.4E-08	-4.7E-08	0.217	7.2E-08	2.1E-07
2	0.035	-7.7E-12	2.2E-11	0.053	17.186	-29.872	0.079	-1.8E-12	-56.924	0.253	-3.2E-12	-4.8E-12	0.132	-8.3E-12	3.4E-11
3	0.035	3.7E-12	5.4E-11	0.044	31.159	-34.130	0.090	1.1E-12	-66.335	0.162	0.0E+00	1.4E-11	0.102	3.9E-12	1.3E-11
4	0.057	4.4E-12	1.2E-11	0.046	24.598	-21.801	0.080	1.6E-12	-57.590	0.105	0.0E+00	6.7E-12	0.098	1.8E-12	8.3E-12
5	0.060	3.4E-13	7.9E-12	0.048	7.272	-28.736	0.070	-1.4E-13	-50.931	0.075	3.5E-12	1.1E-11	0.077	-2.7E-13	1.2E-11
6	0.058	1.9E-12	5.9E-12	0.039	13.971	-19.625	0.061	9.9E-13	-47.954	0.057	5.3E-12	2.2E-11	0.072	5.6E-13	1.5E-11
7	0.058	8.6E-13	6.5E-12	0.038	11.819	-21.795	0.061	8.2E-13	-48.981	0.049	7.2E-12	2.9E-11	0.068	1.2E-12	1.8E-11
8	0.056	2.8E-12	5.3E-13	0.036	7.031	-24.110	0.058	2.1E-12	-47.884	0.043	2.8E-12	3.0E-11	0.066	-9.0E-13	1.4E-11
9	0.056	0.0E+00	2.3E-12	0.035	7.701	-23.381	0.058	1.4E-12	-48.193	0.039	8.4E-12	2.3E-11	0.063	-4.1E-12	9.2E-12
10	0.057	-3.7E-12	-1.9E-12	0.037	1.580	-27.058	0.057	1.6E-12	-48.334	0.037	9.0E-12	2.2E-11	0.062	-4.8E-12	7.1E-12
11	0.056	-1.1E-12	-6.0E-12	0.034	6.532	-23.010	0.057	3.5E-13	-47.910	0.033	5.1E-12	2.3E-11	0.062	-5.2E-12	2.4E-12
12	0.057	-4.4E-12	-5.1E-12	0.035	5.020	-23.545	0.057	3.4E-13	-47.648	0.033	3.6E-12	1.7E-11	0.061	-6.0E-12	2.6E-12
13	0.057	-5.6E-12	0.0E+00	0.034	2.888	-23.073	0.054	-1.8E-13	-45.925	0.030	6.3E-12	1.6E-11	0.062	-7.8E-12	2.6E-12
14	0.057	-1.6E-12	-5.1E-12	0.034	2.838	-22.567	0.053	1.5E-12	-45.063	0.030	3.3E-12	1.2E-11	0.062	-8.7E-12	-2.3E-12
15	0.056	-5.5E-12	1.8E-12	0.033	5.331	-20.792	0.053	9.5E-13	-45.289	0.029	9.9E-12	1.3E-11	0.061	-1.0E-11	0.0E+00
16	0.056	-5.5E-12	1.8E-12	0.033	5.331	-20.792	0.053	9.5E-13	-45.289	0.029	9.9E-12	1.3E-11	0.061	-1.0E-11	0.0E+00
17	0.056	-5.5E-12	1.8E-12	0.033	5.331	-20.792	0.053	9.5E-13	-45.289	0.029	9.9E-12	1.3E-11	0.061	-1.0E-11	0.0E+00
18	0.056	-4.8E-12	-4.4E-12	0.032	6.556	-19.761	0.053	-5.6E-13	-45.313	0.029	2.1E-12	1.4E-11	0.061	-5.5E-12	0.0E+00
19	0.056	-4.8E-12	-4.4E-12	0.032	6.556	-19.761	0.053	-5.6E-13	-45.313	0.029	2.1E-12	1.4E-11	0.061	-5.5E-12	0.0E+00
20	0.056	-1.8E-12	-1.6E-12	0.032	6.897	-19.753	0.053	1.1E-12	-45.484	0.029	4.4E-12	1.3E-11	0.061	-7.3E-12	0.0E+00
Ill Health individual in HH				Retiree in HH			Located in London / SE			Impaired individual in HH			English fluency in HH		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.171	1.0E-08	-12.817	0.440	8.2E-09	-21.345	0.117	3.0E-07	7.5E-07	0.205	-4.295	3.1E-08	0.055	6.8E-07	2.0E-06
2	0.069	-5.2E-12	5.896	0.262	-6.5E-12	-24.566	0.092	-2.2E-12	-1.6E-11	0.100	-7.668	1.2E-11	0.031	-9.2E-12	-1.3E-12
3	0.025	-3.6E-12	23.672	0.175	5.7E-13	-28.180	0.064	-3.2E-13	5.3E-11	0.039	21.543	1.1E-11	0.021	4.5E-13	8.9E-12
4	0.000	-3.8E-10	5397.364	0.116	0.0E+00	-26.908	0.058	1.0E-12	7.8E-12	0.011	80.054	1.8E-12	0.024	2.5E-12	2.0E-11
5	0.016	6.3E-13	-96.051	0.085	2.8E-12	-29.228	0.062	-2.1E-12	2.4E-12	0.004	10.557	5.4E-11	0.026	-1.9E-12	1.5E-11
6	0.017	-1.2E-12	-75.533	0.064	5.4E-12	-25.315	0.064	1.7E-12	6.5E-12	0.009	-90.327	-2.4E-13	0.020	5.1E-13	8.1E-12
7	0.018	4.6E-12	-62.188	0.054	7.8E-12	-25.467	0.067	2.1E-12	3.9E-12	0.012	-87.318	5.1E-12	0.019	-1.1E-12	1.0E-11
8	0.021	1.9E-12	-56.355	0.044	5.4E-12	-23.628	0.068	3.4E-12	5.1E-12	0.015	-69.345	-4.7E-12	0.021	4.7E-13	6.8E-12
9	0.019	-5.2E-13	-47.768	0.040	1.1E-11	-23.988	0.068	-2.0E-12	5.2E-12	0.016	-72.241	9.2E-12	0.022	2.3E-12	8.3E-12
10	0.020	-8.8E-12	-44.058	0.036	1.5E-11	-22.644	0.071	2.5E-12	5.5E-12	0.018	-67.857	-8.9E-12	0.022	8.9E-13	5.4E-12
11	0.022	-6.9E-12	-41.213	0.032	1.4E-11	-21.101	0.072	-2.6E-12	1.1E-12	0.020	-63.735	-6.0E-12	0.023	1.8E-12	6.6E-12
12	0.022	-6.3E-12	-39.827	0.031	1.6E-11	-20.356	0.072	1.3E-12	2.7E-13	0.021	-62.420	9.6E-13	0.023	1.3E-12	3.5E-12
13	0.023	-9.4E-12	-38.001	0.028	2.0E-11	-18.857	0.073	8.2E-13	1.4E-12	0.022	-58.802	-6.3E-12	0.023	4.3E-13	6.1E-12
14	0.024	-6.7E-12	-39.425	0.027	1.5E-11	-16.672	0.073	-2.2E-12	-4.4E-12	0.022	-57.403	-7.2E-12	0.023	-8.7E-13	3.9E-12
15	0.024	-9.9E-12	-38.987	0.027	2.1E-11	-17.140	0.073	1.4E-12	3.5E-12	0.023	-56.865	-5.7E-12	0.023	1.3E-12	5.1E-12
16	0.024	-9.9E-12	-38.987	0.027	2.1E-11	-17.140	0.073	1.4E-12	3.5E-12	0.023	-56.865	-5.7E-12	0.023	1.3E-12	5.1E-12
17	0.024	-9.9E-12	-38.987	0.027	2.1E-11	-17.140	0.073	1.4E-12	3.5E-12	0.023	-56.865	-5.7E-12	0.023	1.3E-12	5.1E-12
18	0.024	-4.9E-12	-38.958	0.027	1.4E-11	-16.402	0.074	2.0E-12	3.9E-12	0.023	-56.840	-6.1E-12	0.023	-8.5E-13	3.4E-12
19	0.024	-4.9E-12	-38.958	0.027	1.4E-11	-16.402	0.074	2.0E-12	3.9E-12	0.023	-56.840	-6.1E-12	0.023	-8.5E-13	3.4E-12
20	0.025	-5.7E-12	-40.619	0.027	1.6E-11	-15.518	0.074	-2.8E-13	-4.1E-13	0.022	-55.820	-8.1E-12	0.023	-4.2E-13	5.6E-12

Table A4 continued: OPN by covariate conditional CVs.

Cars				Tenure			Accommodation type			HH Economic Status			HH Structure		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.046	-13.988	6.757	0.043			0.045	-5.66		0.152	10.514	137.992	0.064	4.135	58.630
2	0.065	-4.168	23.339	0.031			0.042	-8.26		0.095	13.267	143.536	0.075	1.999	17.974
3	0.043	-2.290	39.391	0.019			0.054	-0.46		0.072	8.642	131.969	0.067	2.876	15.854
4	0.051	0.203	28.113	0.020			0.043	-2.10		0.061	7.742	104.670	0.066	1.986	13.031
5	0.048	5.931	31.986	0.012			0.031	3.65		0.052	7.766	94.893	0.050	2.493	12.381
6	0.043	4.638	28.160	0.012			0.028	-0.87		0.045	8.197	78.752	0.047	2.032	11.775
7	0.043	4.512	27.962	0.013			0.028	0.87		0.043	7.478	67.103	0.043	2.231	11.931
8	0.038	6.903	30.397	0.010			0.026	2.98		0.044	7.076	53.974	0.044	2.498	11.053
9	0.038	7.253	30.192	0.011	Not in	Not in	0.027	1.64	Not in	0.041	7.285	54.110	0.041	2.499	11.089
10	0.037	8.554	29.948	0.009	covariate	covariate	0.026	5.16	covariate	0.041	6.796	48.145	0.040	2.514	11.336
11	0.035	7.296	28.582	0.009	set	set	0.026	3.05	set	0.039	7.070	46.638	0.040	2.453	10.902
12	0.036	7.696	28.149	0.008			0.026	4.36		0.040	6.523	43.805	0.040	2.601	10.610
13	0.036	8.152	26.765	0.008			0.023	4.55		0.038	6.297	41.450	0.041	2.614	9.588
14	0.036	8.100	26.238	0.008			0.023	4.47		0.038	6.338	40.810	0.041	2.712	9.389
15	0.036	7.545	25.767	0.009			0.023	3.25		0.037	6.574	41.389	0.040	2.624	9.426
16	0.036	7.545	25.767	0.009			0.023	3.25		0.037	6.574	41.389	0.040	2.624	9.426
17	0.036	7.545	25.767	0.009			0.023	3.25		0.037	6.574	41.389	0.040	2.624	9.426
18	0.036	7.228	25.381	0.009			0.023	2.69		0.037	6.626	40.979	0.041	2.591	9.281
19	0.036	7.228	25.381	0.009			0.023	2.69		0.037	6.626	40.979	0.041	2.591	9.281
20	0.036	7.029	25.455	0.009			0.023	2.70		0.037	6.804	40.832	0.041	2.636	9.324
Ill Health individual in HH				Retiree in HH			Located in London / SE			Impaired individual in HH			English fluency in HH		
Call	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±	CV	5±	20±
1	0.033	68.43		0.127	4.60		0.088	4.769	6.203	0.012		256.000	0.047	5.076	15.917
2	0.001	553.69		0.080	3.62		0.064	6.019	16.403	0.009		33.626	0.025	7.185	20.025
3	0.004	220.66		0.057	3.98		0.040	4.279	27.252	0.011		52.731	0.022	6.208	17.555
4	0.010	109.60		0.036	1.86		0.038	4.449	25.580	0.011		100.340	0.020	7.095	17.248
5	0.016	89.11		0.027	5.89		0.045	3.621	19.211	0.012		144.876	0.021	7.999	18.120
6	0.014	100.09		0.017	1.49		0.049	3.640	16.607	0.012		124.542	0.015	7.522	17.367
7	0.012	119.62		0.014	0.82		0.052	3.608	16.743	0.013		105.497	0.014	7.982	17.391
8	0.012	114.53		0.010	1.27		0.054	3.391	15.419	0.013		112.354	0.015	7.890	16.446
9	0.010	151.75	Not in	0.009	-1.11	Not in	0.053	3.355	15.589	0.015	Not in	86.647	0.016	7.840	15.913
10	0.009	160.34	covariate	0.007	-0.06	covariate	0.056	3.209	15.358	0.015	covariate	85.568	0.017	7.798	15.812
11	0.010	162.62	set	0.006	-8.08	set	0.058	3.248	15.191	0.016	set	83.903	0.017	7.451	15.179
12	0.009	166.93		0.005	-8.17		0.058	3.188	15.108	0.016		83.189	0.017	7.426	15.184
13	0.010	166.87		0.004	-10.87		0.059	3.179	14.330	0.016		83.897	0.017	7.521	15.363
14	0.010	154.98		0.003	-15.89		0.059	3.196	14.098	0.016		88.825	0.017	7.543	15.312
15	0.010	154.92		0.003	-18.89		0.060	3.219	14.123	0.016		88.359	0.017	7.393	15.179
16	0.010	154.92		0.003	-18.89		0.060	3.219	14.123	0.016		88.359	0.017	7.393	15.179
17	0.010	154.92		0.003	-18.89		0.060	3.219	14.123	0.016		88.359	0.017	7.393	15.179
18	0.010	154.46		0.003	-23.33		0.060	3.233	14.155	0.016		88.317	0.017	7.330	15.066
19	0.010	154.46		0.003	-23.33		0.060	3.233	14.155	0.016		88.317	0.017	7.330	15.066
20	0.011	143.78		0.003	-27.27		0.060	3.269	14.205	0.015		93.407	0.017	7.356	15.017

Table A5: Adaptive (denoted ‘A’) and responsive (‘R’) strategy overall CV based PC points in call records in each survey given the three auxiliary covariate sets (see text for explanation). We also present in brackets the percentage of the total calls made to the sample by ending collection after the identified call. Stability thresholds are: a) $\alpha = 0.01$; and b) $\alpha = 0.05$.

	No model selection		Call 5 set		Call 20 set	
Survey	A	R	A	R	A	R
a) $\alpha = 0.01$:						
LFS	8 (2.9%)	7 (4.7%)	8 (2.9%)	7 (4.7%)	8 (2.9%)	7 (4.7%)
LOS	10 (11.1%)	8 (15.2%)	11 (9.5%)	8 (15.2%)	10 (11.1%)	8 (15.2%)
OPN	8 (6.8%)	7 (9.7%)	8 (6.8%)	7 (9.7%)	7 (9.7%)	7 (9.7%)
b) $\alpha = 0.05$:						
LFS	4 (19.0%)	4 (19.0%)	5 (12.2%)	4 (19.0%)	4 (19.0%)	4 (19.0%)
LOS	6 (22.0%)	5 (27.0%)	6 (22.0%)	5 (27.0%)	6 (22.0%)	5 (27.0%)
OPN	5 (18.8%)	4 (26.4%)	5 (18.8%)	4 (26.4%)	5 (18.8%)	4 (26.4%)

Table A6: Adaptive (denoted ‘A’) and responsive (‘R’) strategy unconditional partial by covariate CV based PC points in call records in each survey given the three auxiliary covariate set when stability thresholds are: a) $\alpha = 0.01$; and b) $\alpha = 0.05$. No model selection sets are denoted by the subscript ‘none’, call 5 sets by ‘5’, and call 20 sets by ‘20’.

Survey / model	HH Economic Status		HH structure		Retiree in HH		Located in Ldn / SE	
	A	R	A	R	A	R	A	R
a) $\alpha = <0.01$:								
LFS _{none}	8	7	1	2	8	7	5	5
LFS ₅	8	7	1	2	8	7	5	5
LFS ₂₀	8	7	1	2	8	7	5	5
LoS _{none}	9	8	7	6	10	8	6	3
LoS ₅	9	8	7	6	10	8	6	3
LoS ₂₀	9	8	7	6	10	8	6	3
OPN _{none}	10	7	7	4	10	8	3	4
OPN ₅	10	7	7	4	10	8	3	4
OPN ₂₀	10	7	7	4	9	7	3	4
b) $\alpha = <0.05$:								
LFS _{none}	4	4	1	2	5	4	3	3
LFS ₅	4	4	1	2	5	4	3	3
LFS ₂₀	4	4	1	2	5	4	3	3
LoS _{none}	6	5	4	3	6	5	2	3
LoS ₅	6	5	4	3	6	5	2	3
LoS ₂₀	6	5	4	3	6	5	2	3
OPN _{none}	5	5	3	3	6	5	2	2
OPN ₅	5	5	3	3	6	5	2	2
OPN ₂₀	5	5	3	3	5	4	2	2

Table A7: Parameter estimates from logistic regression models of LFS sample HH response propensity derived in Table 3 of the main paper.

	β	SE
Call 5 dataset:		
(Intercept)	0.04063	0.0383
CHH_ECONOMIC_STATUS2	0.15808	0.09878
CHH_ECONOMIC_STATUS3	0.25785	0.05095
CHH_ECONOMIC_STATUS4	0.07499	0.04343
CHH_ECONOMIC_STATUS5	0.09353	0.1529
CHH_HOUSEHOLD_STRUCTURE2	0.23636	0.06485
CHH_HOUSEHOLD_STRUCTURE3	0.45144	0.04394
CHH_HOUSEHOLD_STRUCTURE4	0.64072	0.05263
CHH_HOUSEHOLD_STRUCTURE5	0.36879	0.04932
CHH_HOUSEHOLD_STRUCTURE6	-0.66945	0.72449
C_TYPACCOM2	-0.17481	0.03839
C_TYPACCOM3	-0.09575	0.35028
C_TYPACCOM4	0.04724	0.1132
gor_name2	-0.26731	0.03396
<i>variables not retained:</i>		
chh_eia_retired1	0.25002	0.04989
chh_disability1	-0.03921	0.04442
chh_ill_health1	-0.10946	0.04882
C_TENURE2	-0.00542	0.035375
C_TENURE3	-0.20743	0.113299
C_CARS1	0.08117	0.04088
C_CARS2	0.09445	0.05211
C_CARS3	0.1595	0.07239
C_CARS4	0.09331	0.11298
CHH_POORENGSPK2	-0.21963	0.16739
Call 20 dataset:		
(Intercept)	0.29758	0.05404
CHH_ECONOMIC_STATUS2	0.10833	0.10264
CHH_ECONOMIC_STATUS3	0.17732	0.05643
CHH_ECONOMIC_STATUS4	0.03521	0.0458
CHH_ECONOMIC_STATUS5	0.10241	0.15735
CHH_HOUSEHOLD_STRUCTURE2	0.27424	0.0679
CHH_HOUSEHOLD_STRUCTURE3	0.39369	0.04747
CHH_HOUSEHOLD_STRUCTURE4	0.58303	0.05703
CHH_HOUSEHOLD_STRUCTURE5	0.30573	0.05337
CHH_HOUSEHOLD_STRUCTURE6	0.45231	0.72527
C_TYPACCOM2	-0.1586	0.04275
C_TYPACCOM3	-0.31027	0.34911
C_TYPACCOM4	0.08439	0.12791
C_TENURE2	0.08003	0.03922
C_TENURE3	-0.24948	0.13078
C_CARS1	0.12269	0.04305
C_CARS2	0.1021	0.05602
C_CARS3	0.14252	0.07707
C_CARS4	0.21568	0.13216
gor_name2	-0.30254	0.03474
chh_ill_health1	-0.15177	0.05023
chh_eia_retired1	0.17268	0.05245
<i>variables not retained:</i>		
chh_disability1	-0.00333	0.056179
CHH_POORENGSPK2	-0.1287	0.17089

Table A8: Parameter estimates from logistic regression models of LOS sample HH response propensity derived in Table 3 of the main paper.

	β	SE
Call 5 dataset:		
(Intercept)	0.23882	0.07188
CHH_ECONOMIC_STATUS2	0.19284	0.20196
CHH_ECONOMIC_STATUS3	0.31572	0.09484
CHH_ECONOMIC_STATUS4	0.25001	0.07599
CHH_ECONOMIC_STATUS5	0.46739	0.30028
CHH_HOUSEHOLD_STRUCTURE2	-0.08604	0.13097
CHH_HOUSEHOLD_STRUCTURE3	0.23916	0.07582
CHH_HOUSEHOLD_STRUCTURE4	0.08759	0.09411
CHH_HOUSEHOLD_STRUCTURE5	-0.05954	0.08701
CHH_HOUSEHOLD_STRUCTURE6	-11.811311	96.96791
C_TENURE2	-0.17857	0.06411
C_TENURE3	-0.50199	0.19737
C_TYPACCOM2	-0.28238	0.07968
C_TYPACCOM3	0.95917	0.77913
C_TYPACCOM4	-0.20387	0.2271
gor_name2	-0.29265	0.05951
chh_eia_retired1	0.47562	0.08755
<i>variables not retained:</i>		
chh_disability1	-0.07031	0.07115
chh_ill_health1	-0.08925	0.07878
CHH_POORENGSPK2	-0.55438	0.38547
C_CARS1	0.208184	0.0765
C_CARS2	0.145794	0.09698
C_CARS3	0.177067	0.12423
C_CARS4	0.002162	0.23206
Call 20 dataset:		
(Intercept)	0.46427	0.09564
CHH_ECONOMIC_STATUS2	0.11931	0.20798
CHH_ECONOMIC_STATUS3	0.30276	0.10499
CHH_ECONOMIC_STATUS4	0.25683	0.0818
CHH_ECONOMIC_STATUS5	0.25524	0.30673
CHH_HOUSEHOLD_STRUCTURE2	-0.01115	0.13472
CHH_HOUSEHOLD_STRUCTURE3	0.28238	0.0848
CHH_HOUSEHOLD_STRUCTURE4	0.20538	0.10412
CHH_HOUSEHOLD_STRUCTURE5	-0.01451	0.09544
CHH_HOUSEHOLD_STRUCTURE6	-12.14645	96.96791
C_TENURE2	-0.13911	0.06753
C_TENURE3	-0.5361	0.22375
C_CARS1	0.24013	0.07895
C_CARS2	0.25611	0.10106
C_CARS3	0.16261	0.12925
C_CARS4	0.093	0.23451
gor_name2	-0.35656	0.06111
chh_disability1	-0.17031	0.07493
chh_eia_retired1	0.38591	0.09284
<i>variables not retained:</i>		
chh_ill_health1	-0.09126	0.10227
CHH_POORENGSPK2	-0.65502	0.38162
C_TYPACCOM2	-0.15448	0.08381
C_TYPACCOM3	0.61143	0.77911
C_TYPACCOM4	-0.30707	0.23822

Table A8: Parameter estimates from logistic regression models of LOS sample HH response propensity derived in Table 3 of the main paper.

	β	SE
Call 5 dataset:		
(Intercept)	0.28137	0.09141
CHH_ECONOMIC_STATUS2	0.65262	0.21328
CHH_ECONOMIC_STATUS3	0.32361	0.10053
CHH_ECONOMIC_STATUS4	0.13896	0.07787
CHH_ECONOMIC_STATUS5	0.76063	0.32565
CHH_HOUSEHOLD_STRUCTURE2	0.03435	0.12899
CHH_HOUSEHOLD_STRUCTURE3	0.28929	0.082
CHH_HOUSEHOLD_STRUCTURE4	0.1789	0.09933
CHH_HOUSEHOLD_STRUCTURE5	-0.0329	0.09314
CHH_HOUSEHOLD_STRUCTURE6	1.07131	1.21063
C_TYPACCOM2	-0.20135	0.07698
C_TYPACCOM3	-0.16059	0.59436
C_TYPACCOM4	-0.10414	0.23884
C_CARS1	0.27358	0.07641
C_CARS2	0.36972	0.09444
C_CARS3	0.23133	0.12263
C_CARS4	0.17637	0.21555
gor_name2	-0.39704	0.05864
CHH_POORENGSPK2	-0.67311	0.31354
chh_ill_health1	-0.25621	0.08384
chh_eia_retired1	0.02199	0.08874
<i>variables not retained:</i>		
C_TENURE2	0.02813	0.06957
C_TENURE3	0.24744	0.23189
chh_disability1	-0.17598	0.09609
Call 20 dataset:		
(Intercept)	0.43432	0.06668
CHH_ECONOMIC_STATUS2	0.49475	0.21033
CHH_ECONOMIC_STATUS3	0.2889	0.0733
CHH_ECONOMIC_STATUS4	0.13841	0.07331
CHH_ECONOMIC_STATUS5	0.72122	0.32468
CHH_HOUSEHOLD_STRUCTURE2	0.05047	0.1258
CHH_HOUSEHOLD_STRUCTURE3	0.44732	0.07548
CHH_HOUSEHOLD_STRUCTURE4	0.32202	0.09242
CHH_HOUSEHOLD_STRUCTURE5	0.08467	0.0865
CHH_HOUSEHOLD_STRUCTURE6	1.06356	1.20853
gor_name2	-0.43453	0.05775
CHH_POORENGSPK2	-0.78678	0.31204
chh_disability1	-0.28567	0.07556
<i>variables not retained:</i>		
chh_eia_retired1	0.09131	0.08779
chh_ill_health1	-0.16076	0.10515
C_CARS1	0.307983	0.07495
C_CARS2	0.417661	0.092301
C_CARS3	0.284072	0.120579
C_CARS4	0.183394	0.194024
C_TYPACCOM2	-0.27369	0.074266
C_TYPACCOM3	-0.15049	0.593788
C_TYPACCOM4	-0.17288	0.212996
C_TENURE2	-0.12813	0.05984
C_TENURE3	0.06883	0.19203

Figure A1: LOS unconditional and conditional partial by covariate CVs and 95% CIs for HH attribute covariates given the three auxiliary covariate sets. The first column of graphs visualise indicators given the no model selection set, the second column are given the call five set, and the third column are given the call 20 set. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

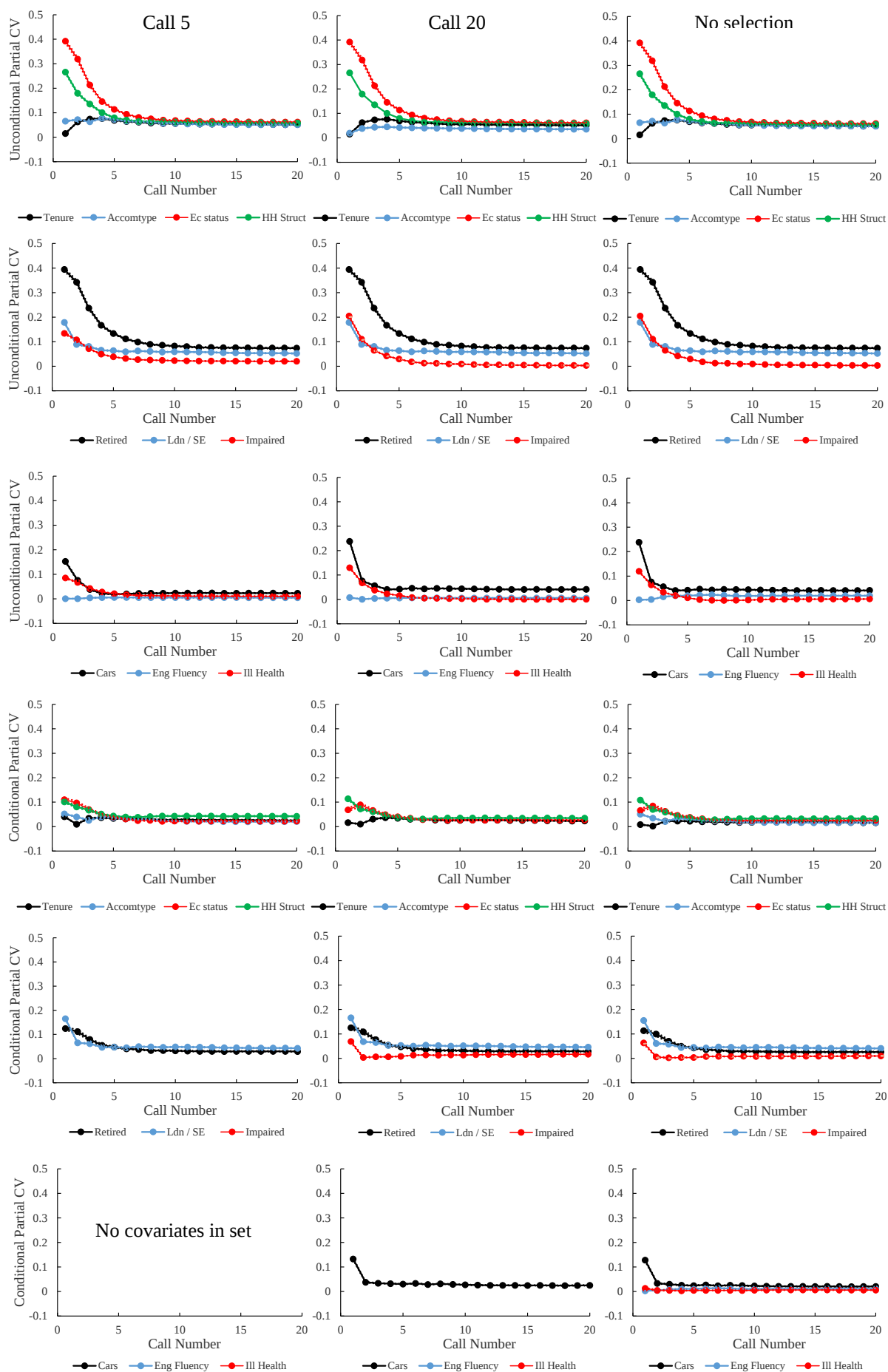


Figure A2: OPN unconditional and conditional partial by covariate CVs and 95% CIs for HH attribute covariates given the three auxiliary covariate sets. The first column of graphs visualise indicators given the no model selection set, the second column are given the call five set, and the third column are given the call 20 set. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

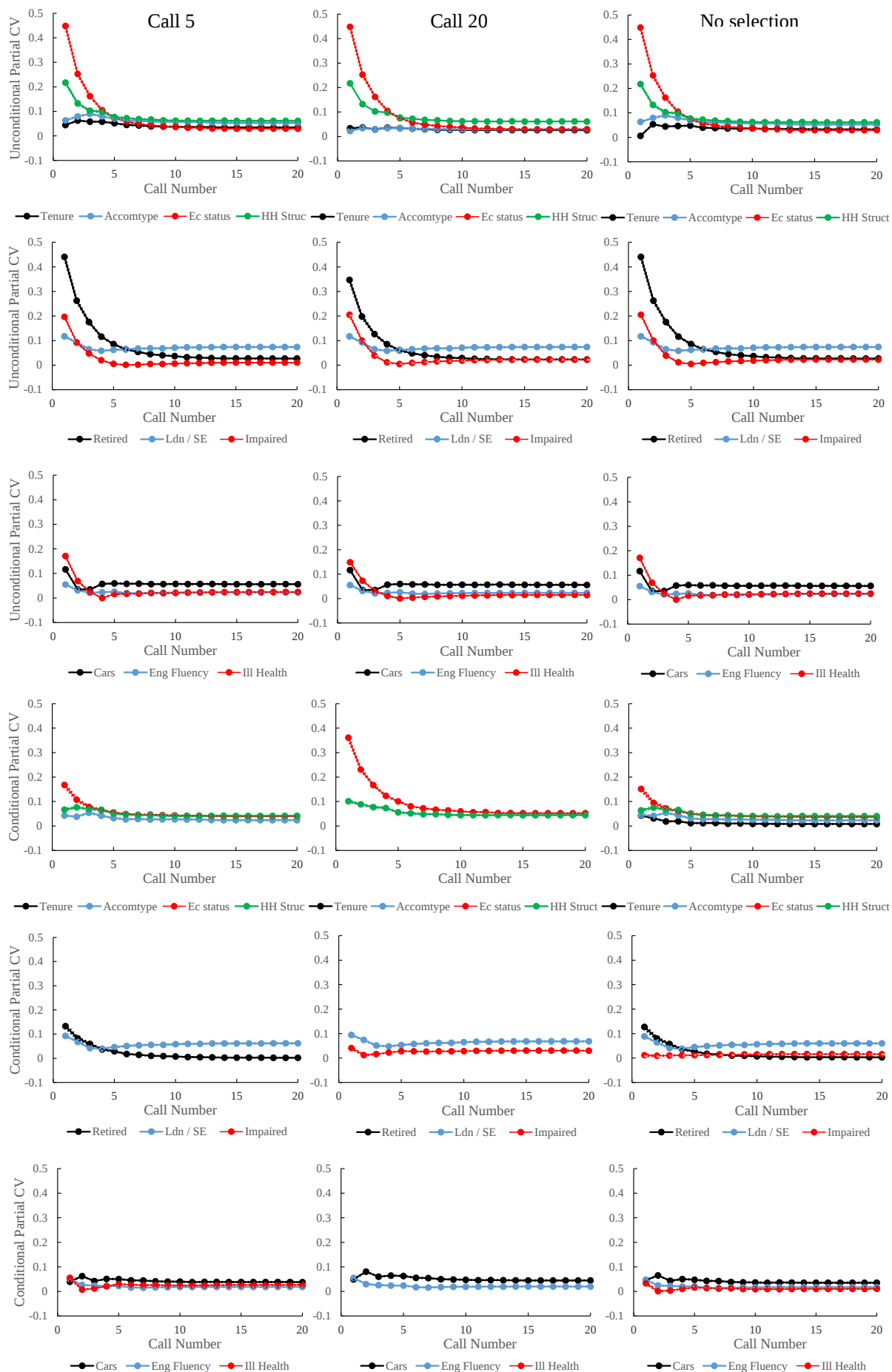
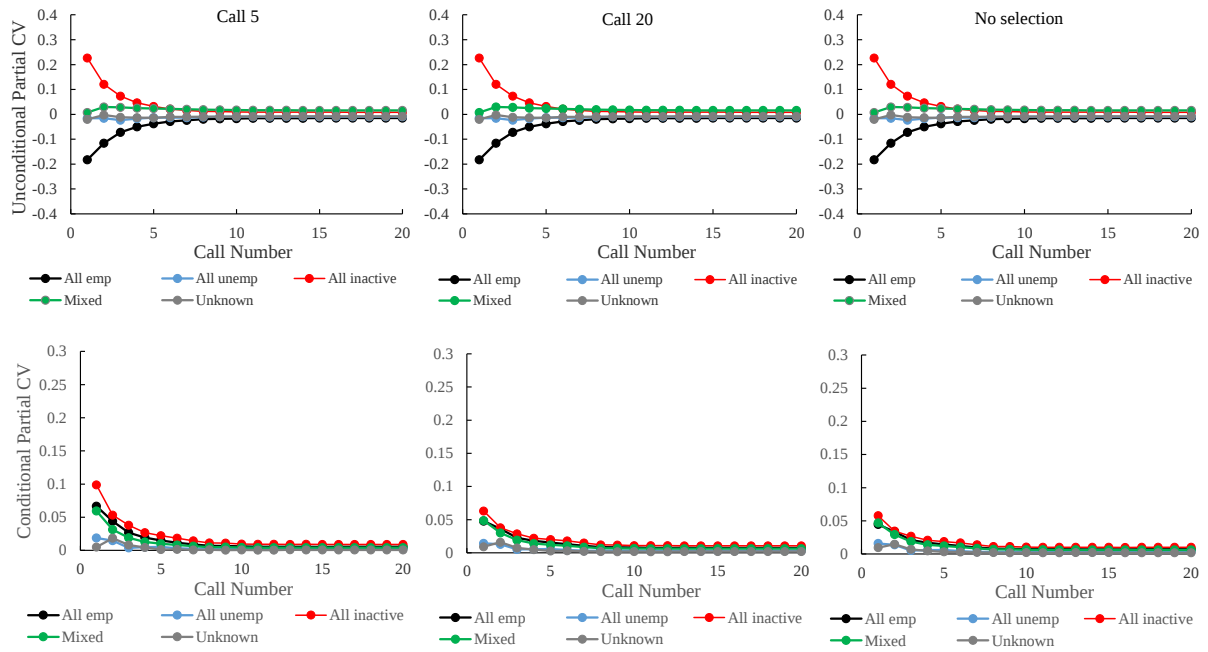
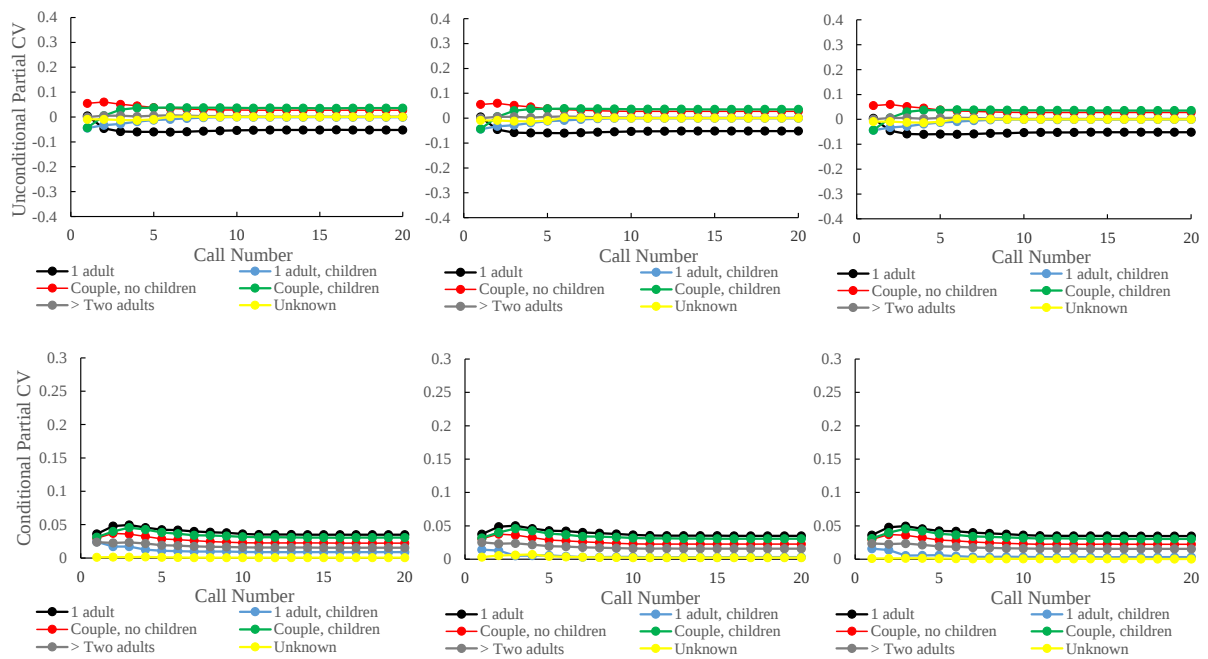


Figure A3: LFS unconditional and conditional by covariate category CVs given different auxiliary covariate sets: a) HH Economic Status; b) HH structure; c) Tenure; d) Accommodation type; e) Located in London / SE; f) Cars available; g) Ill health individual in HH; h) Impaired individual in HH; i) English Fluency in HH; and j) Retiree in HH. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

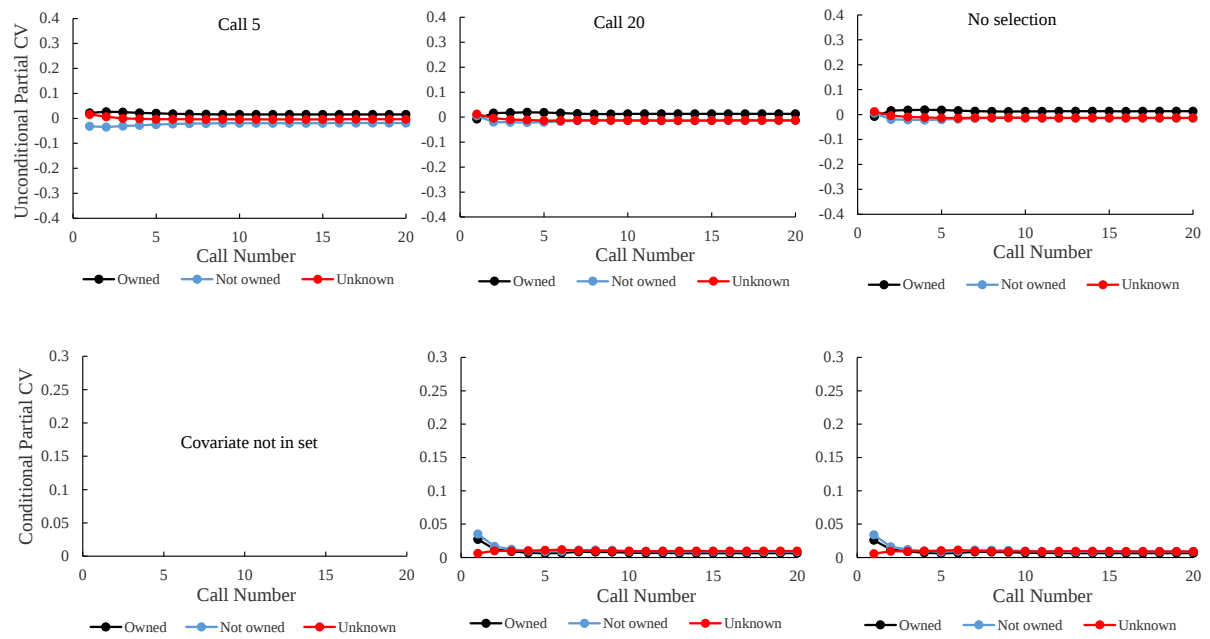
a)



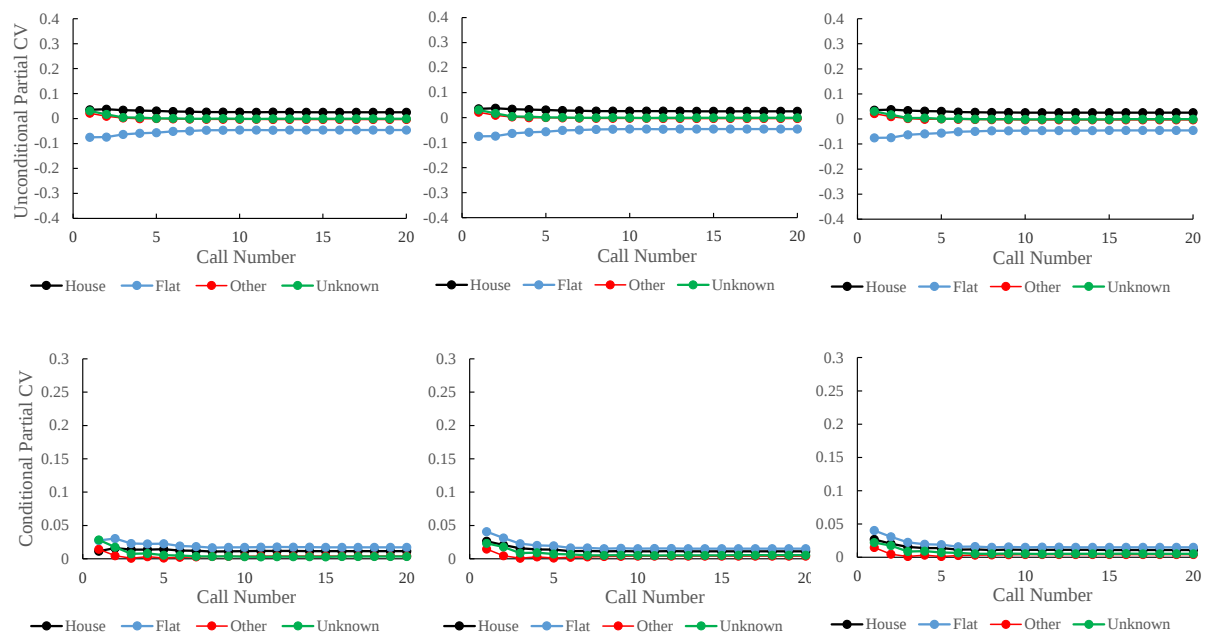
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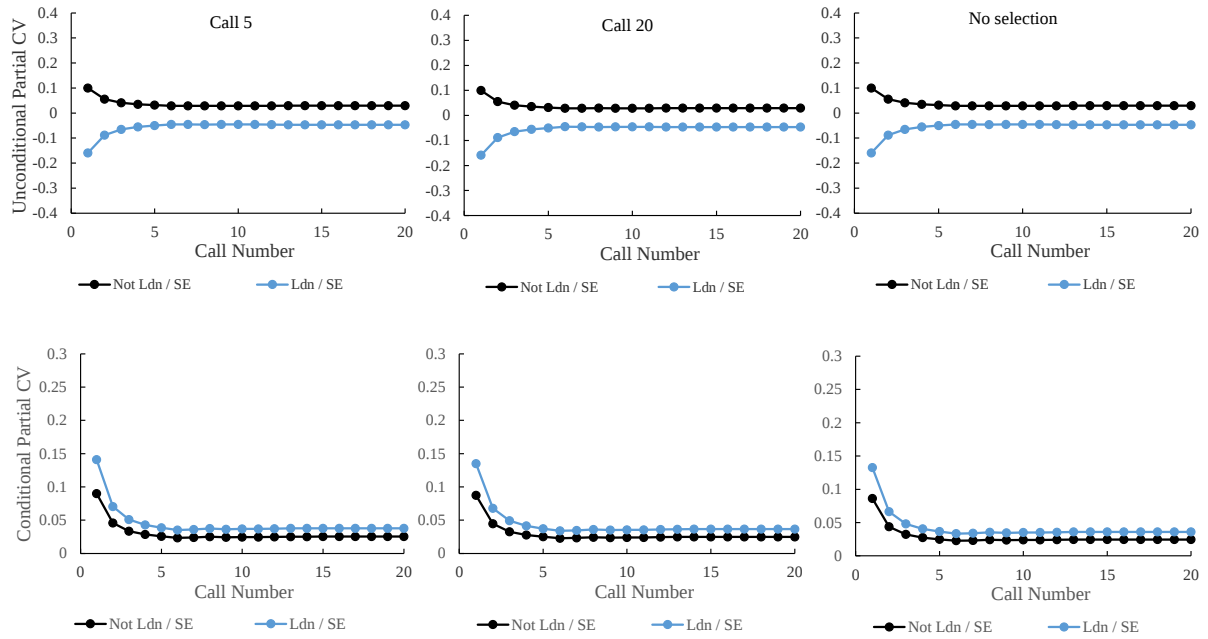
c)



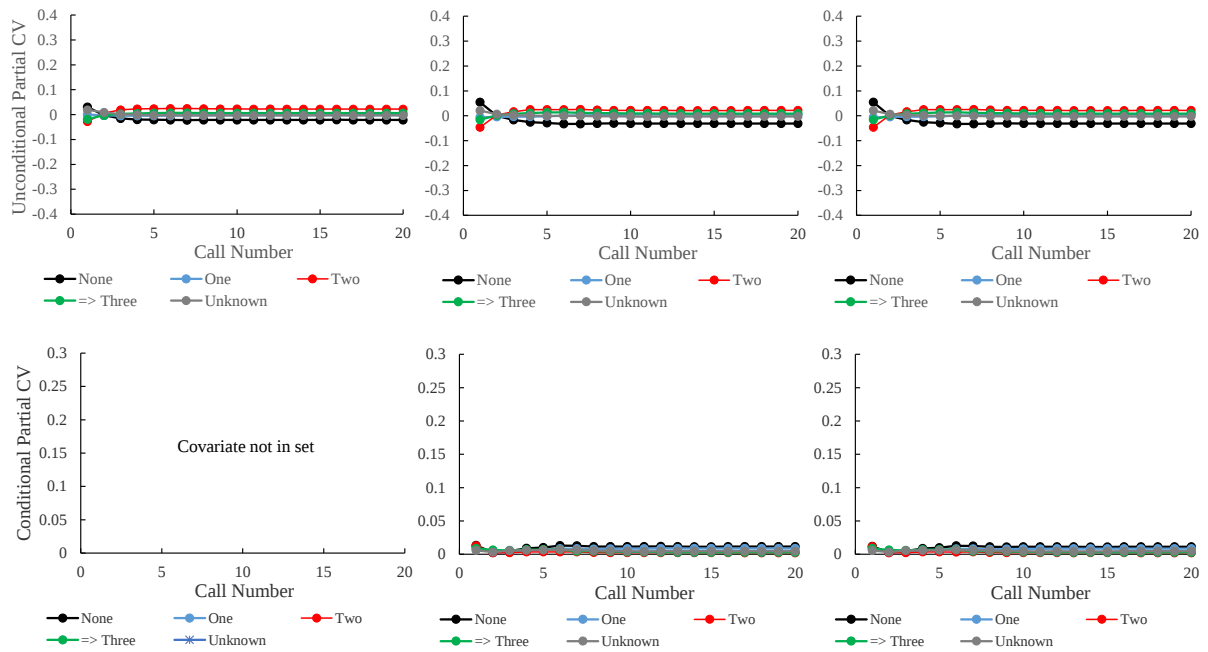
d)



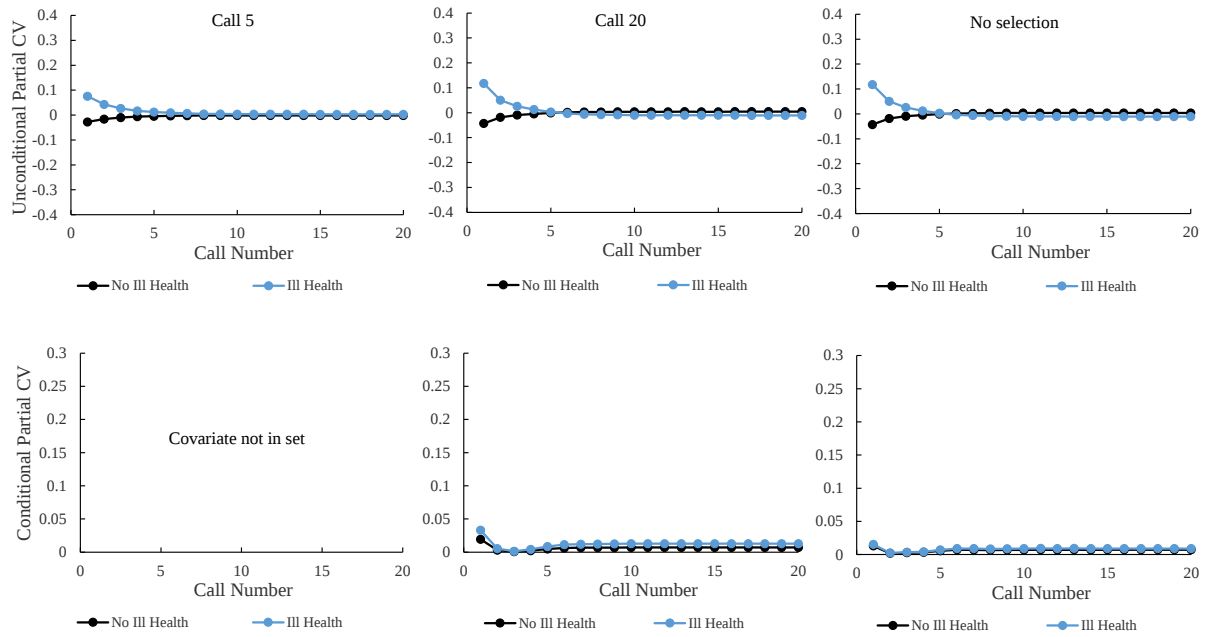
e)



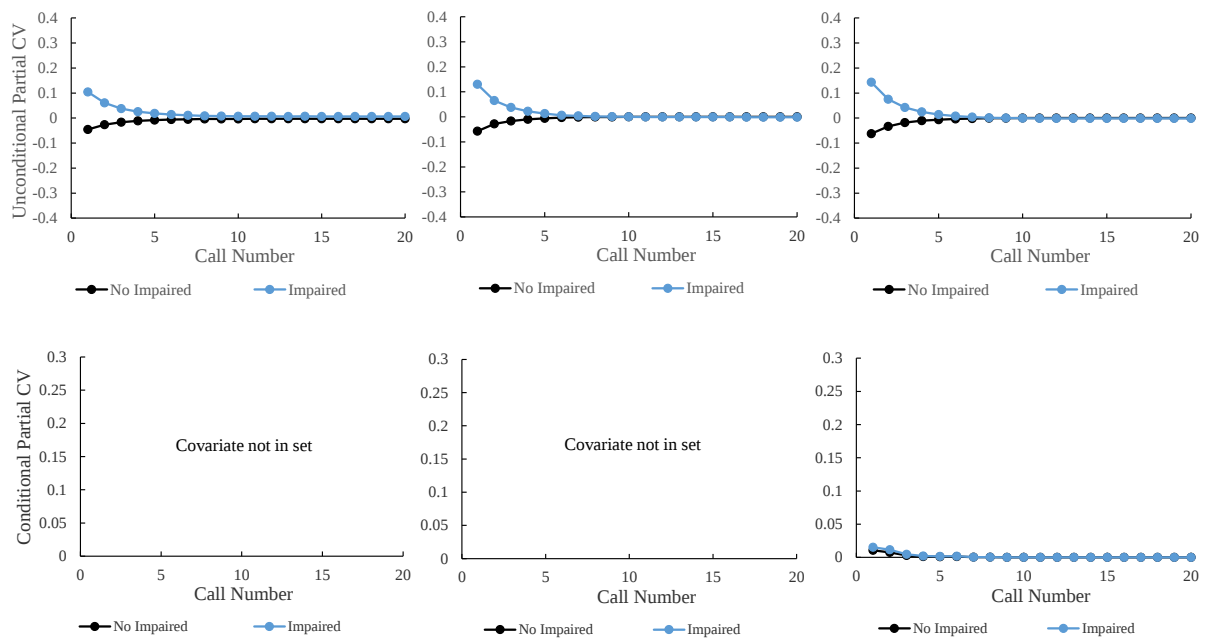
f)



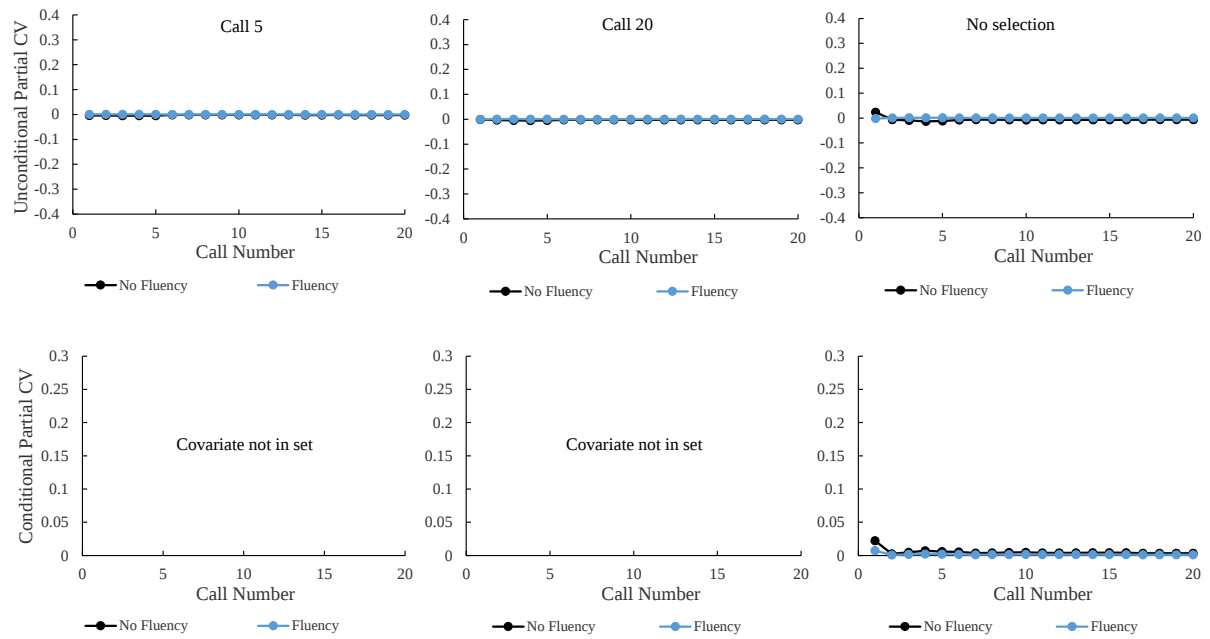
g)



h)



i)



j)

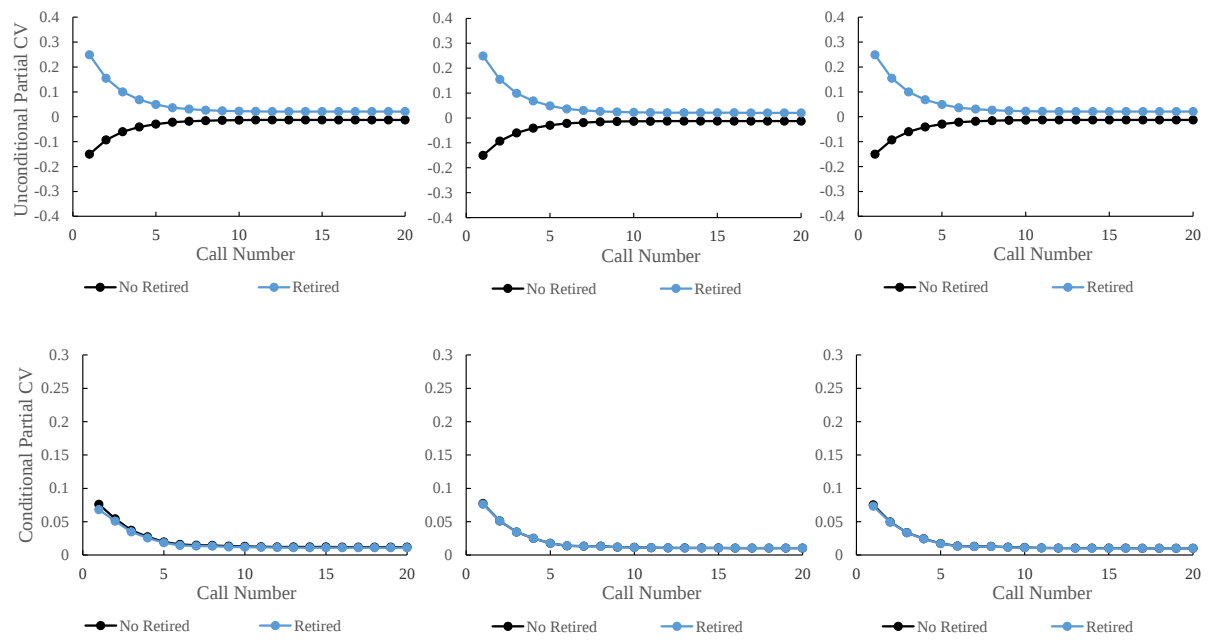
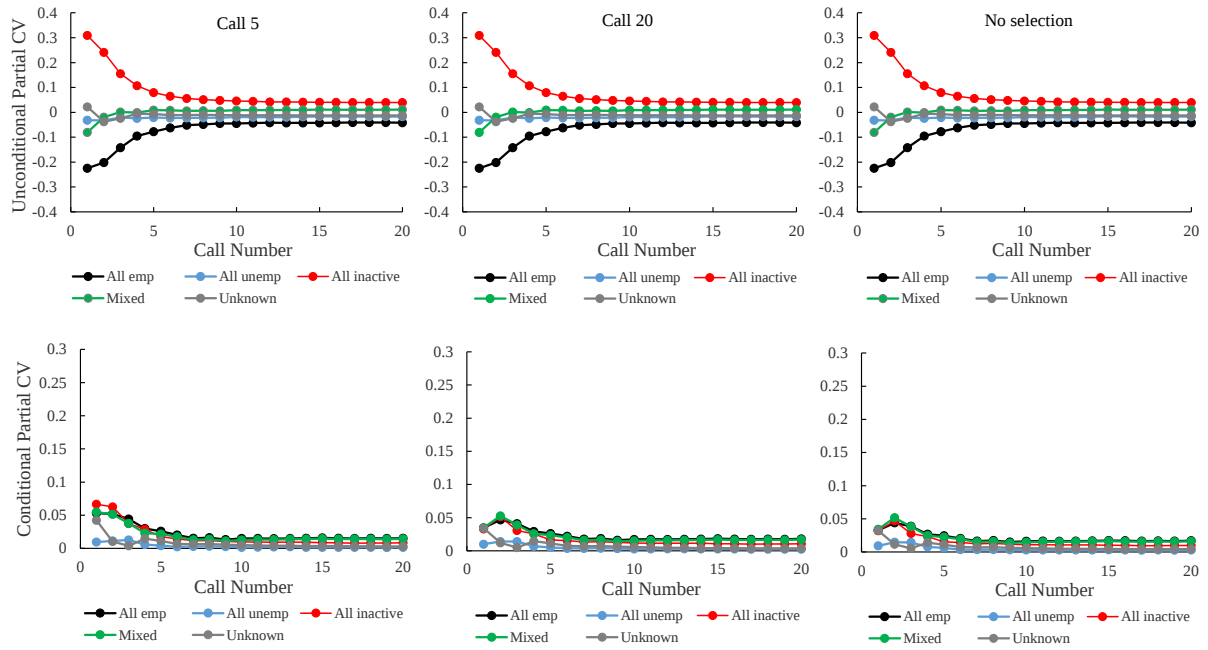
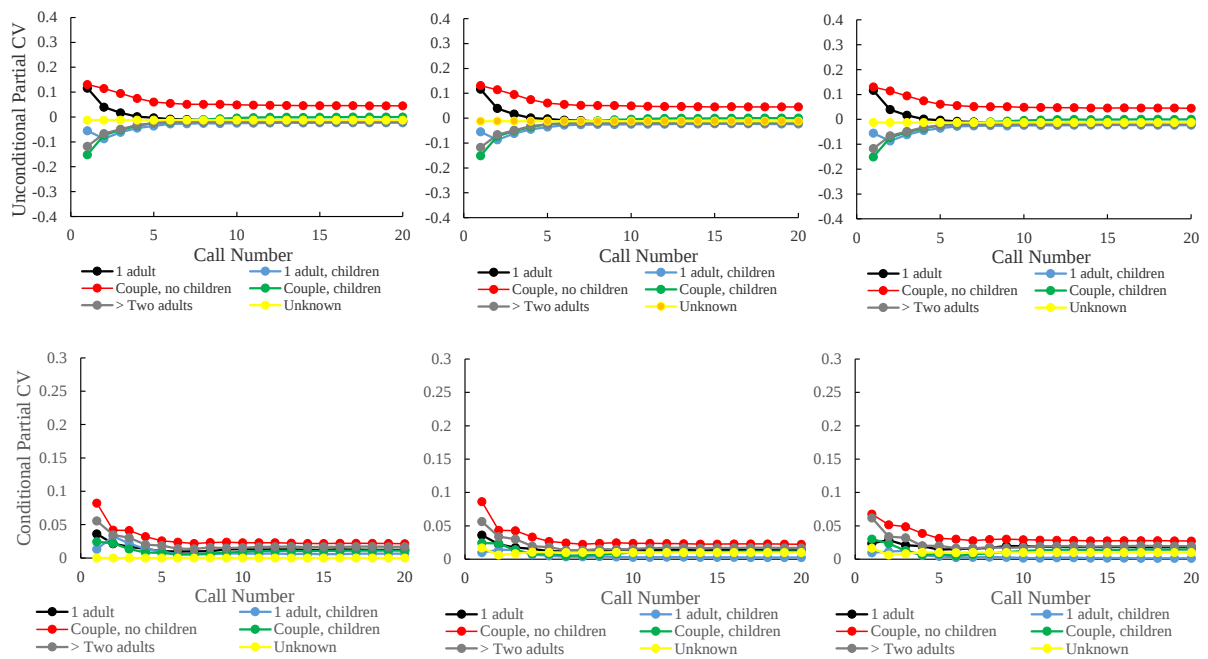


Figure A4: LOS unconditional and conditional by covariate category CVs given different auxiliary covariate sets: a) HH Economic Status; b) HH structure; c) Tenure; d) Accommodation type; e) Located in London / SE; f) Cars available; g) Ill health individual in HH; h) Impaired individual in HH; i) English Fluency in HH; and j) Retiree in HH. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

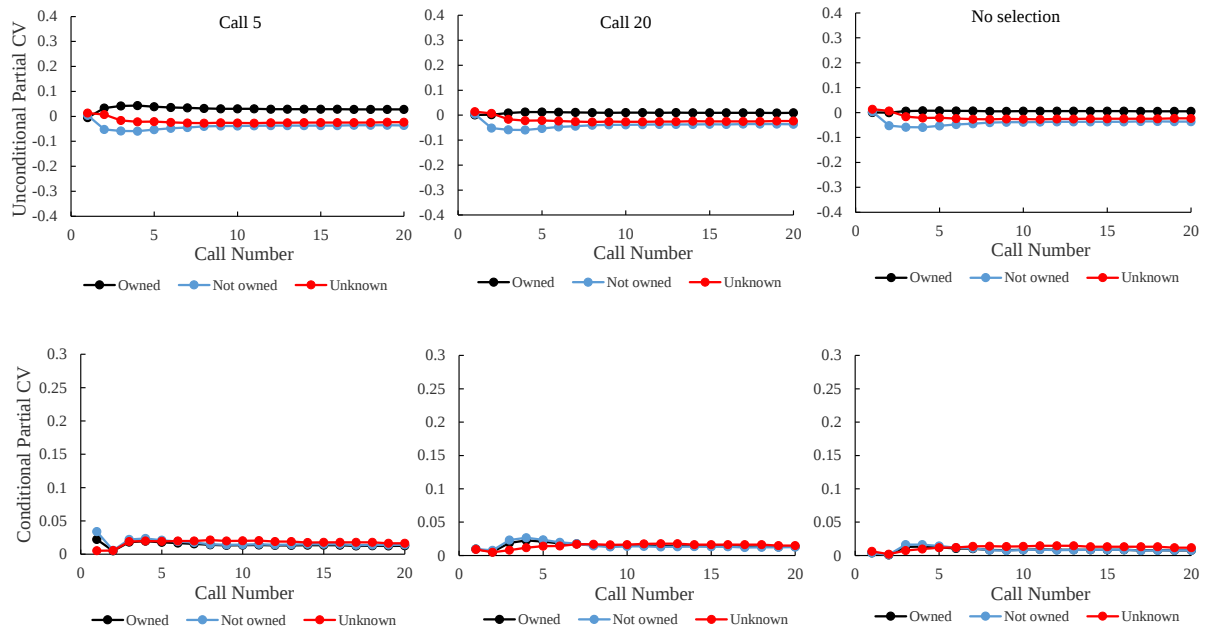
a)



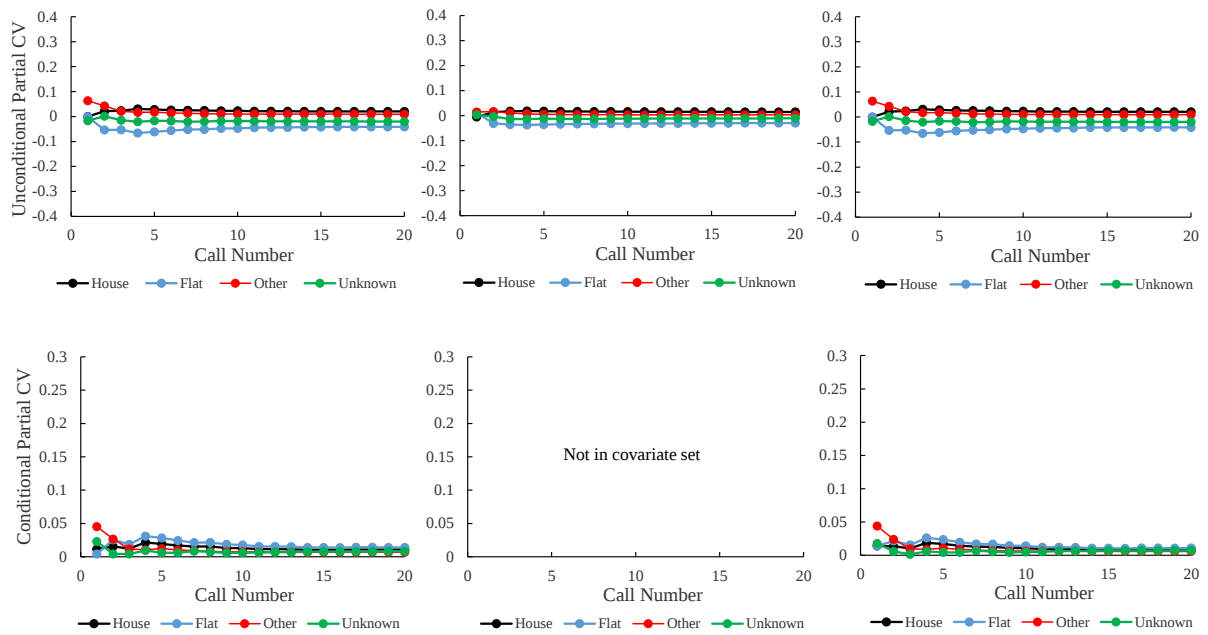
b)



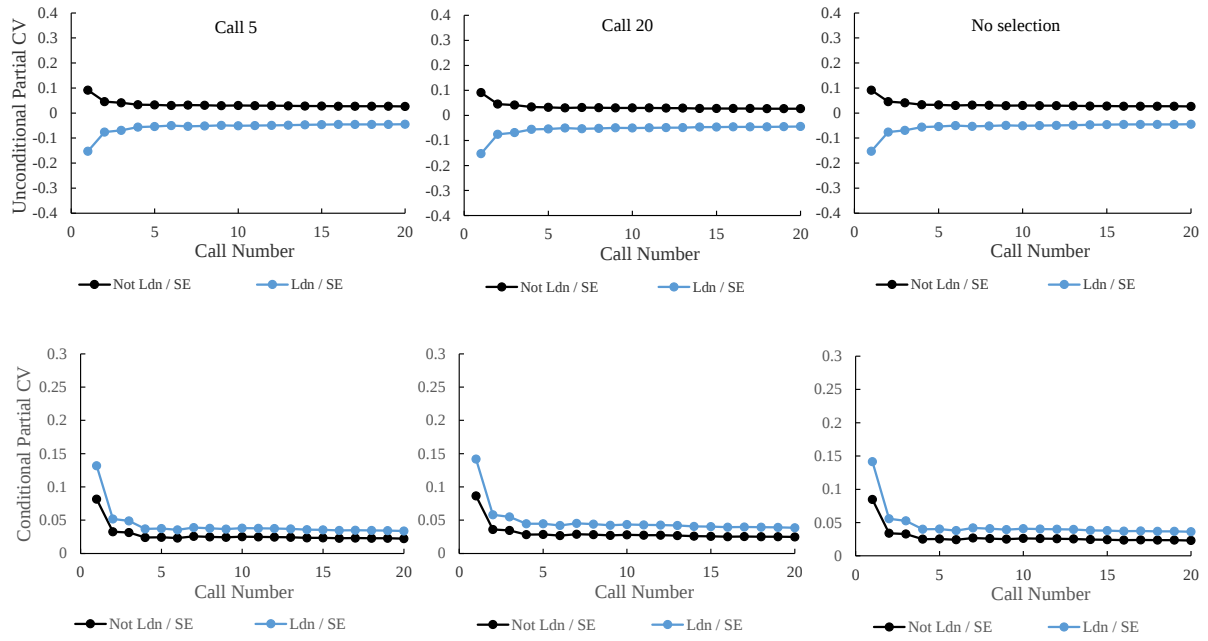
c)



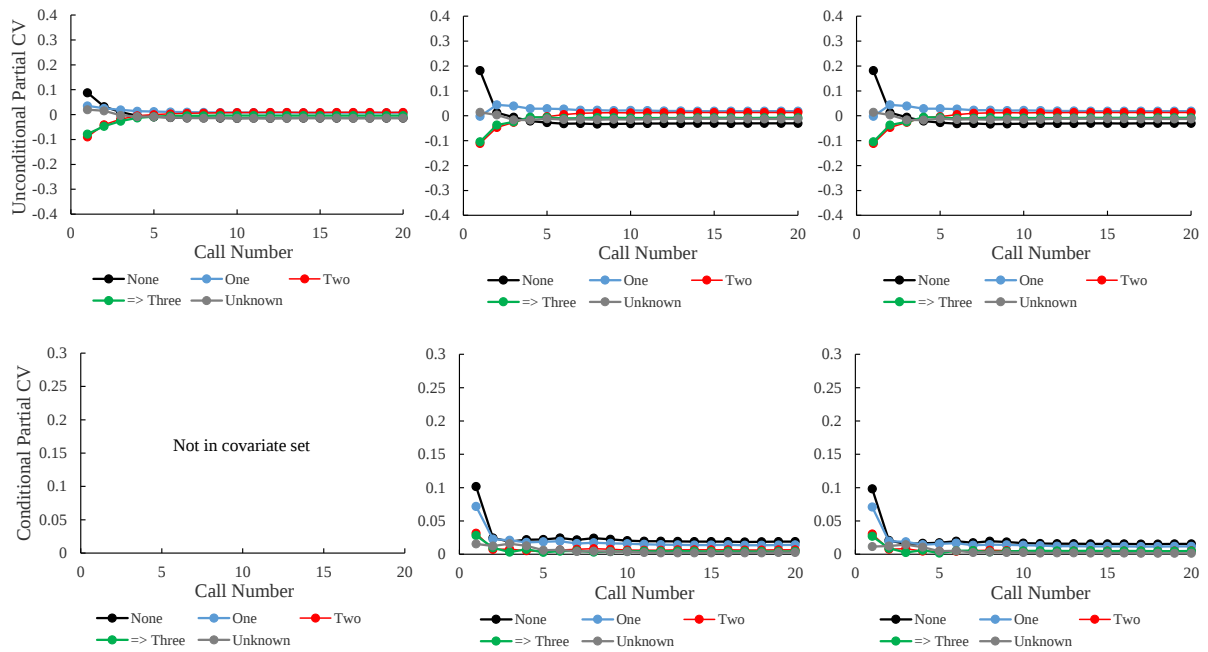
d)



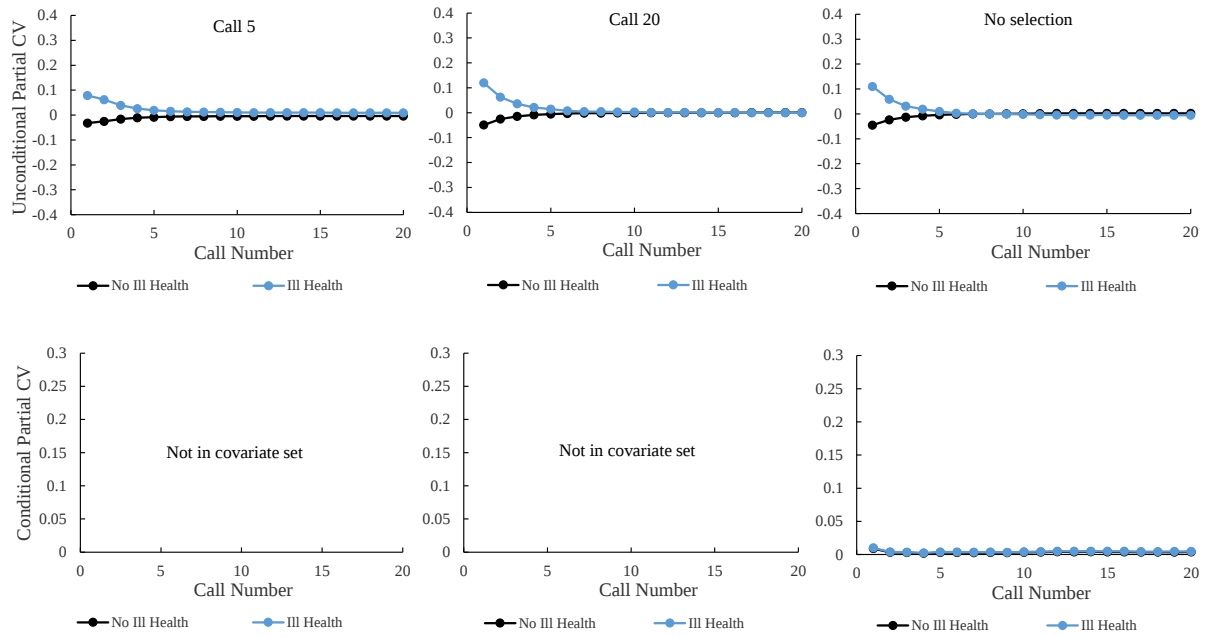
e)



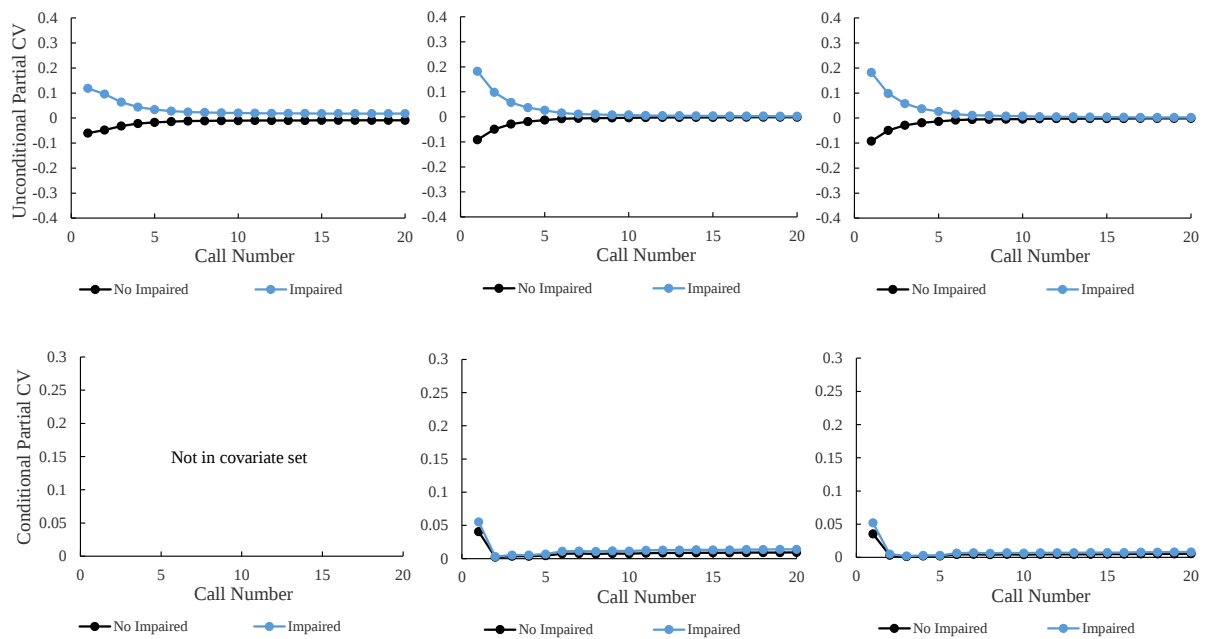
f)



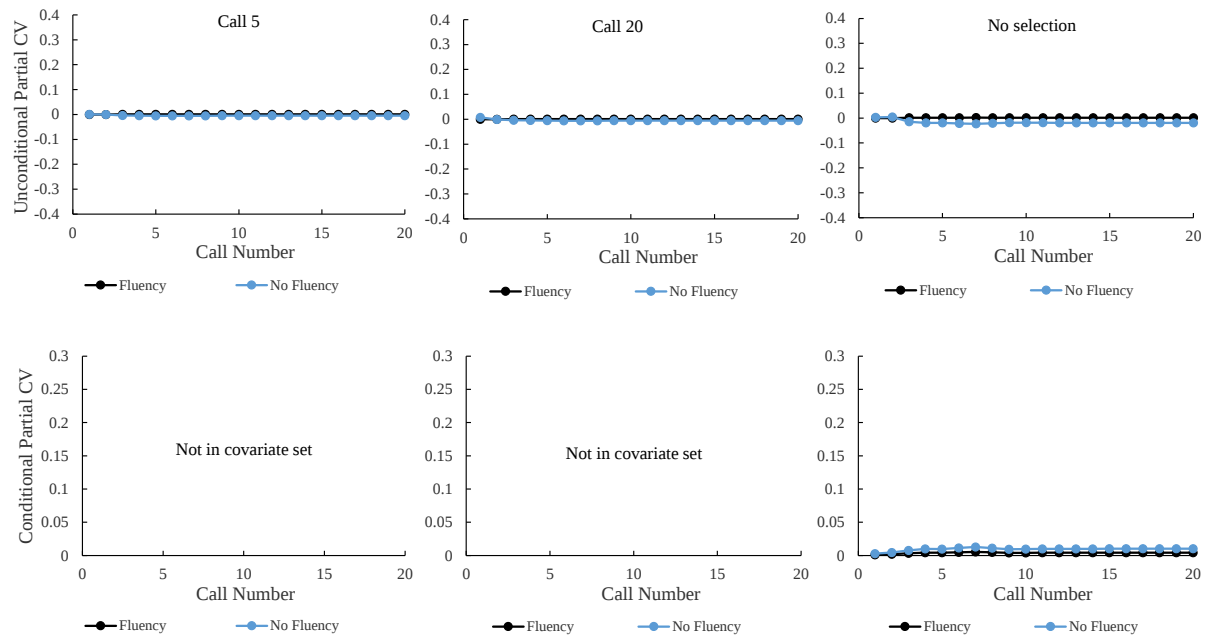
g)



h)



i)



j)

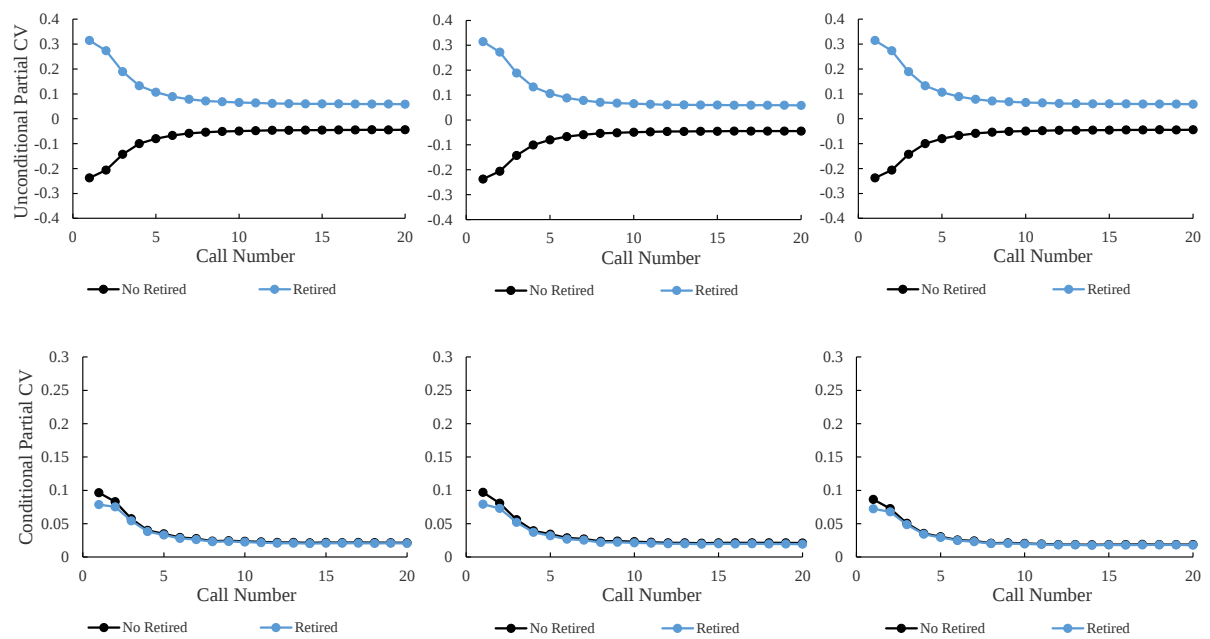
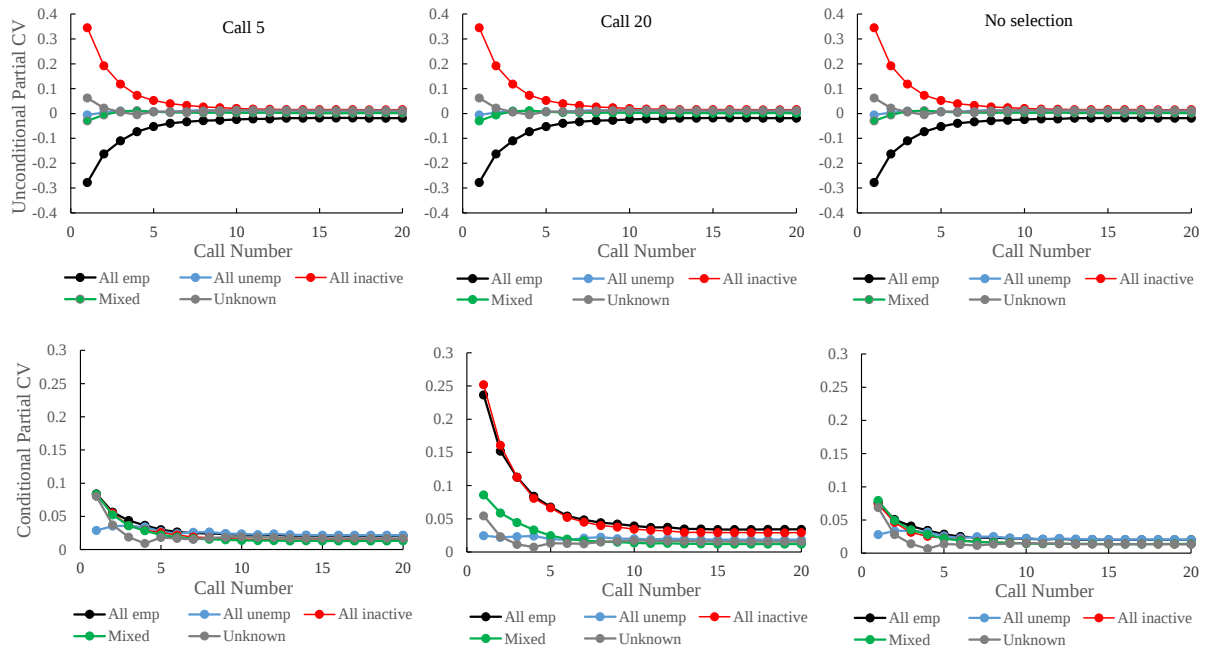
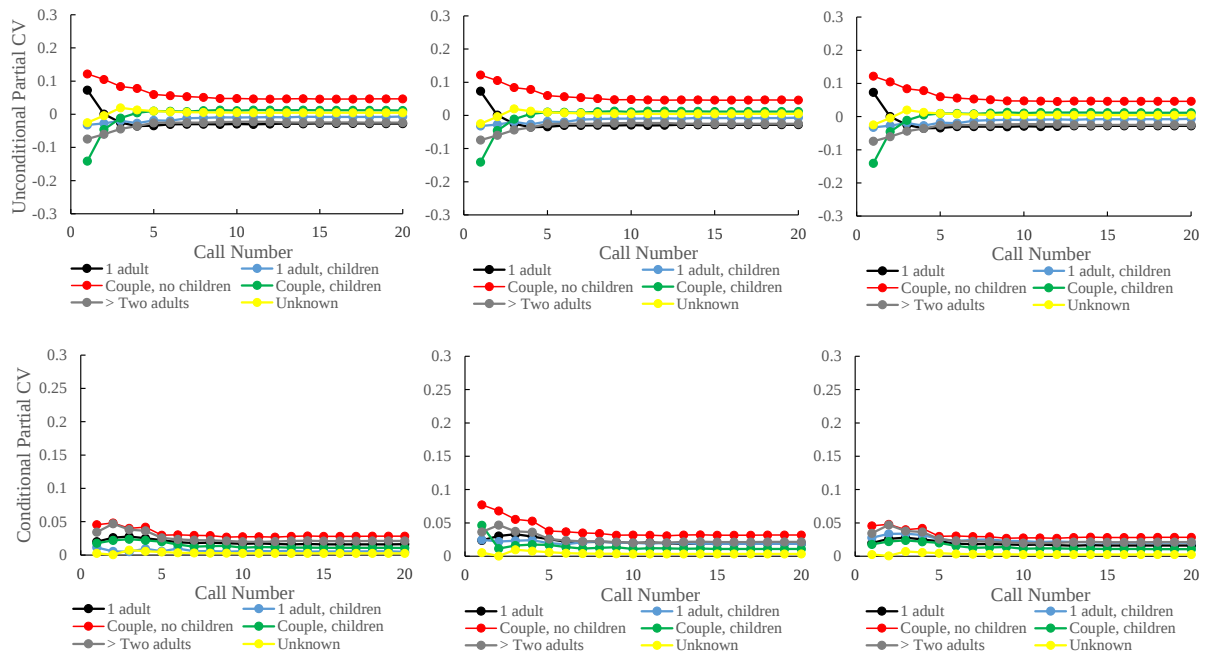


Figure A5: OPN unconditional and conditional by covariate category CVs given different auxiliary covariate sets: a) HH Economic Status; b) HH structure; c) Tenure; d) Accommodation type; e) Located in London / SE; f) Cars available; g) Ill health individual in HH; h) Impaired individual in HH; i) English Fluency in HH; and j) Retiree in HH. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

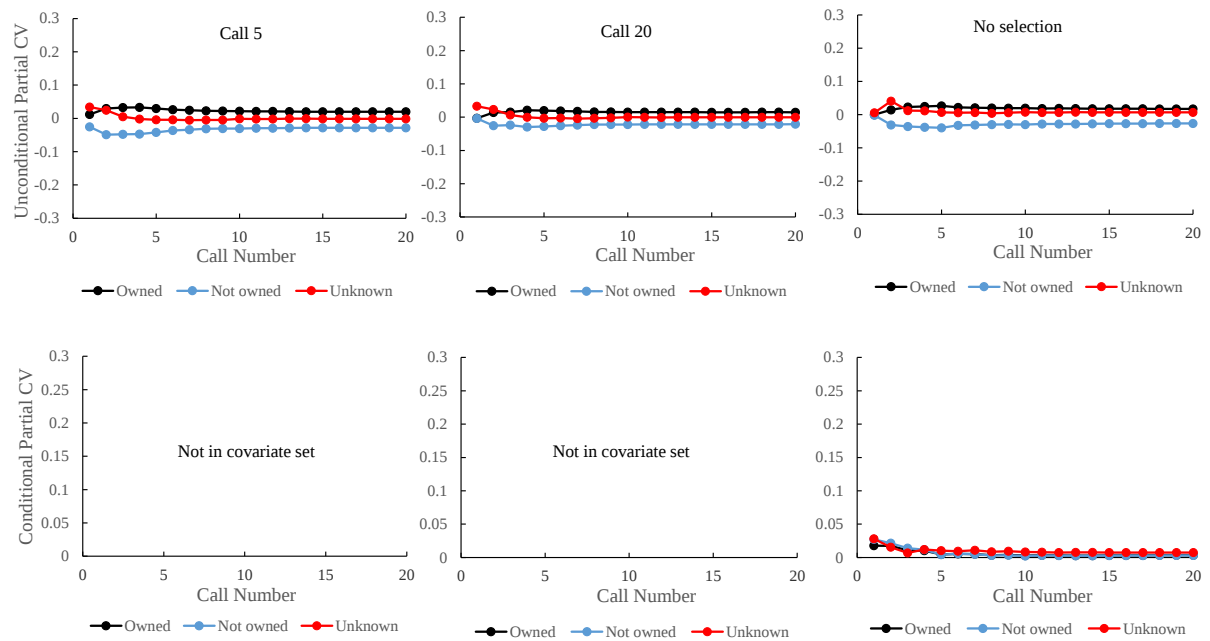
a)



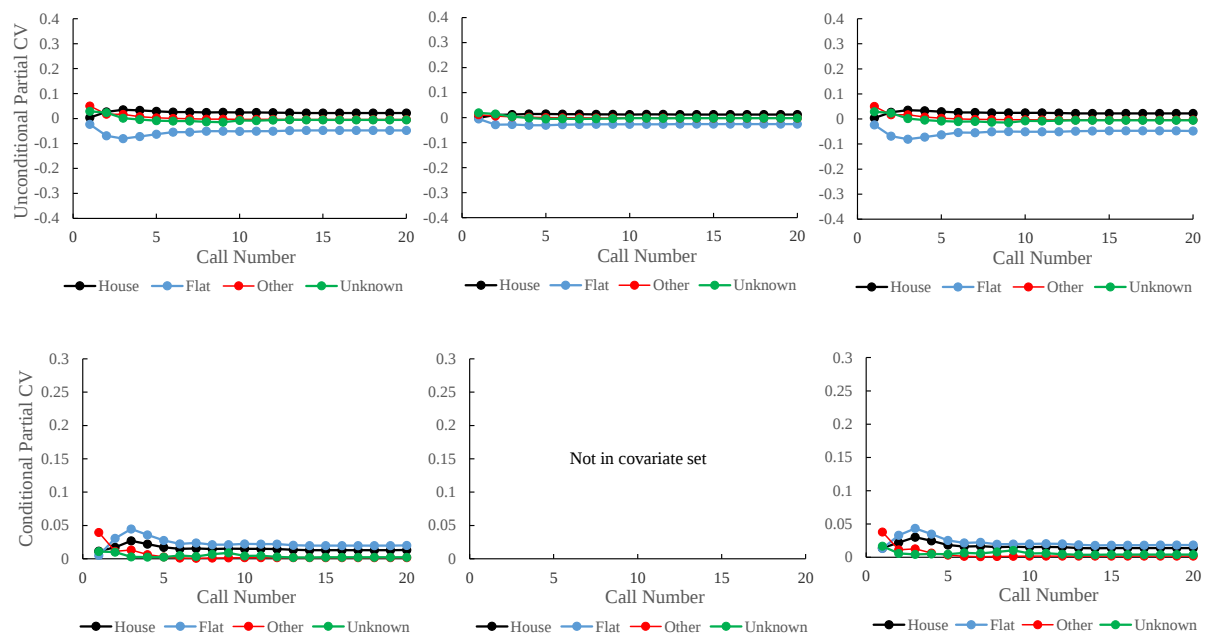
b)



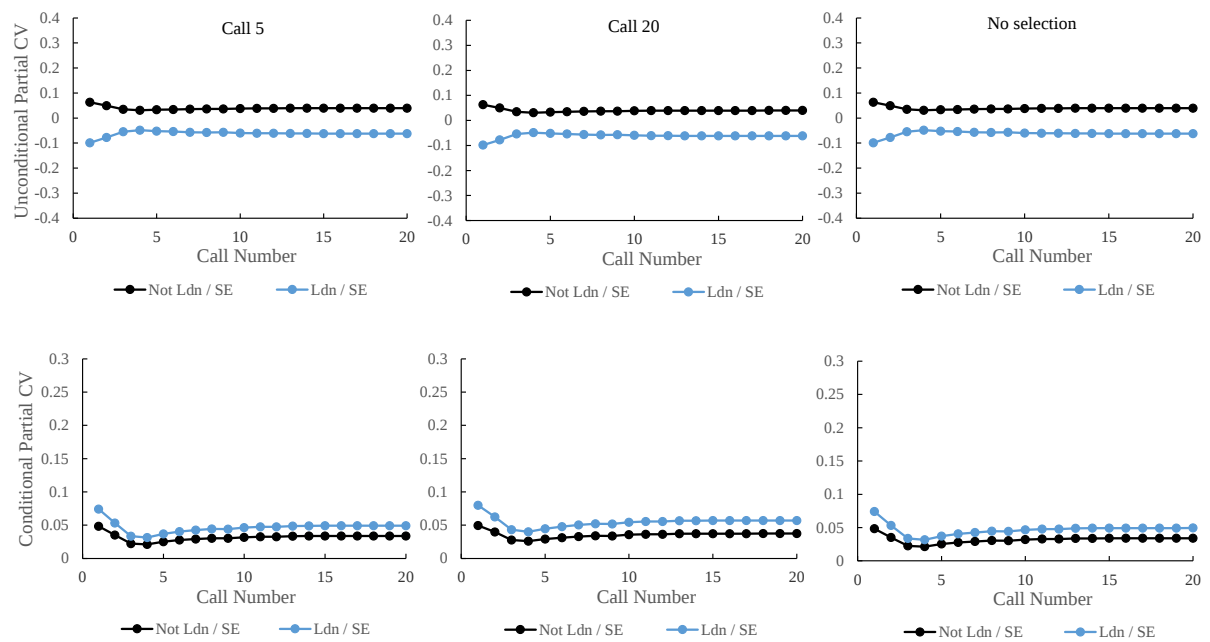
c)



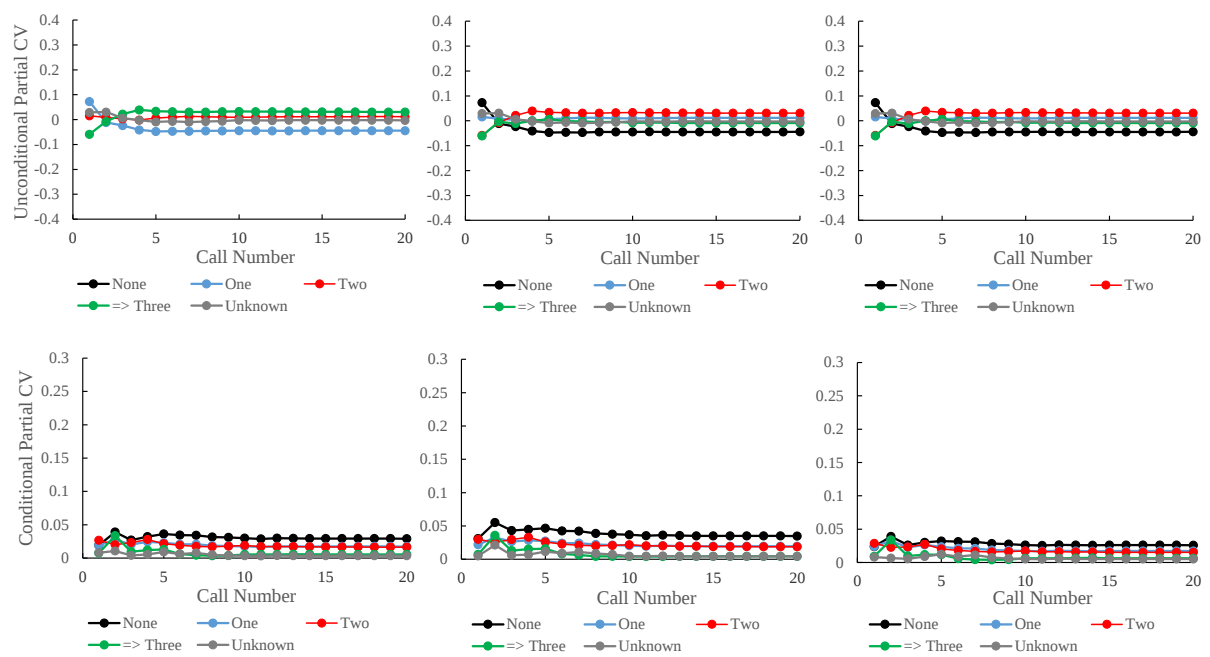
d)



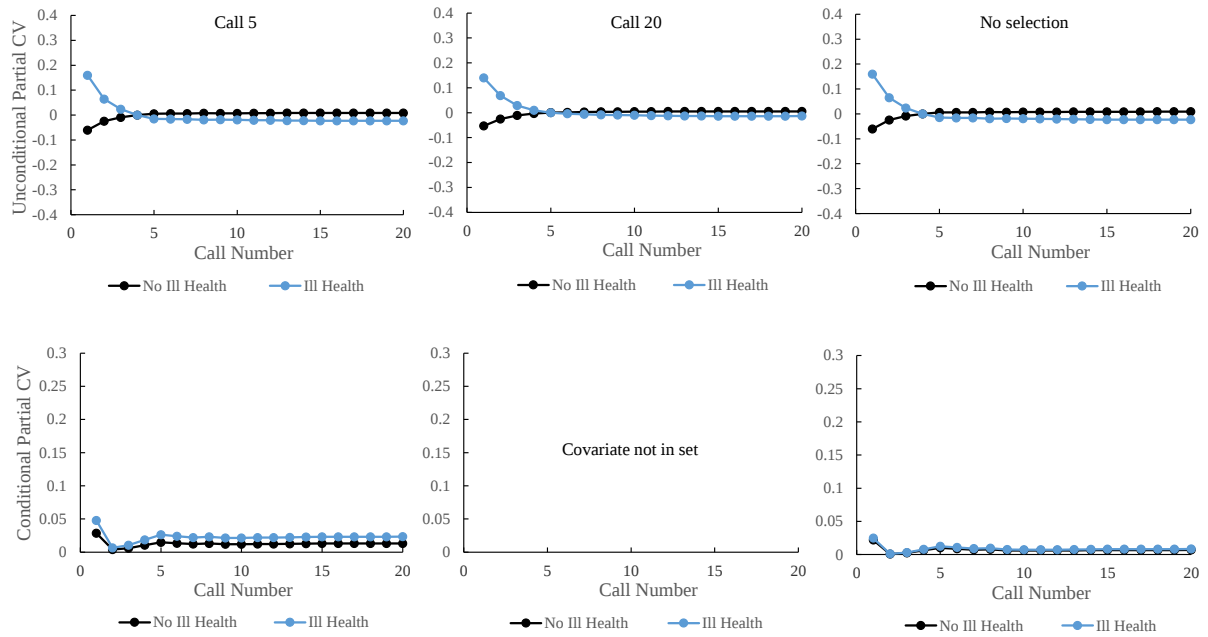
e)



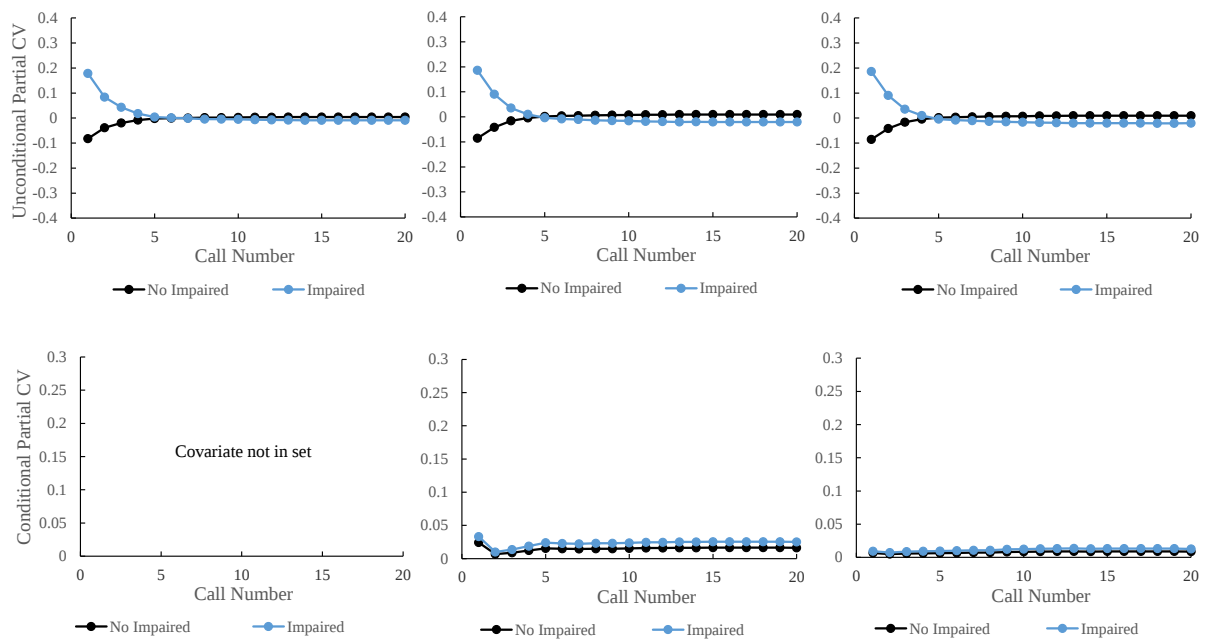
f)



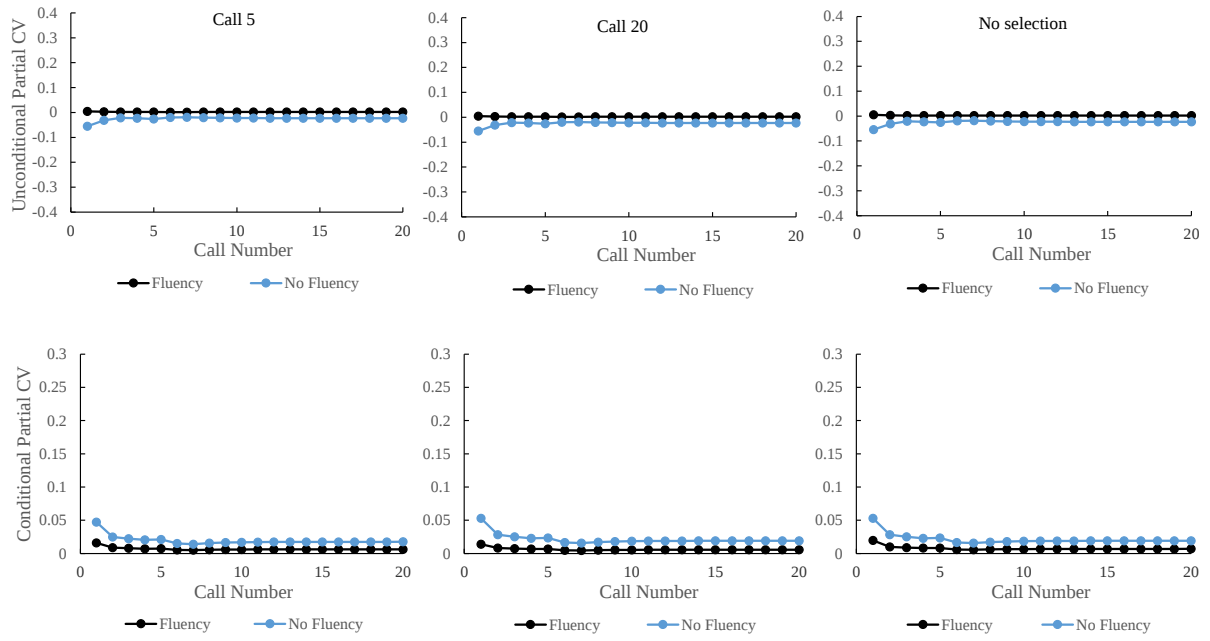
g)



h)



i)



j)

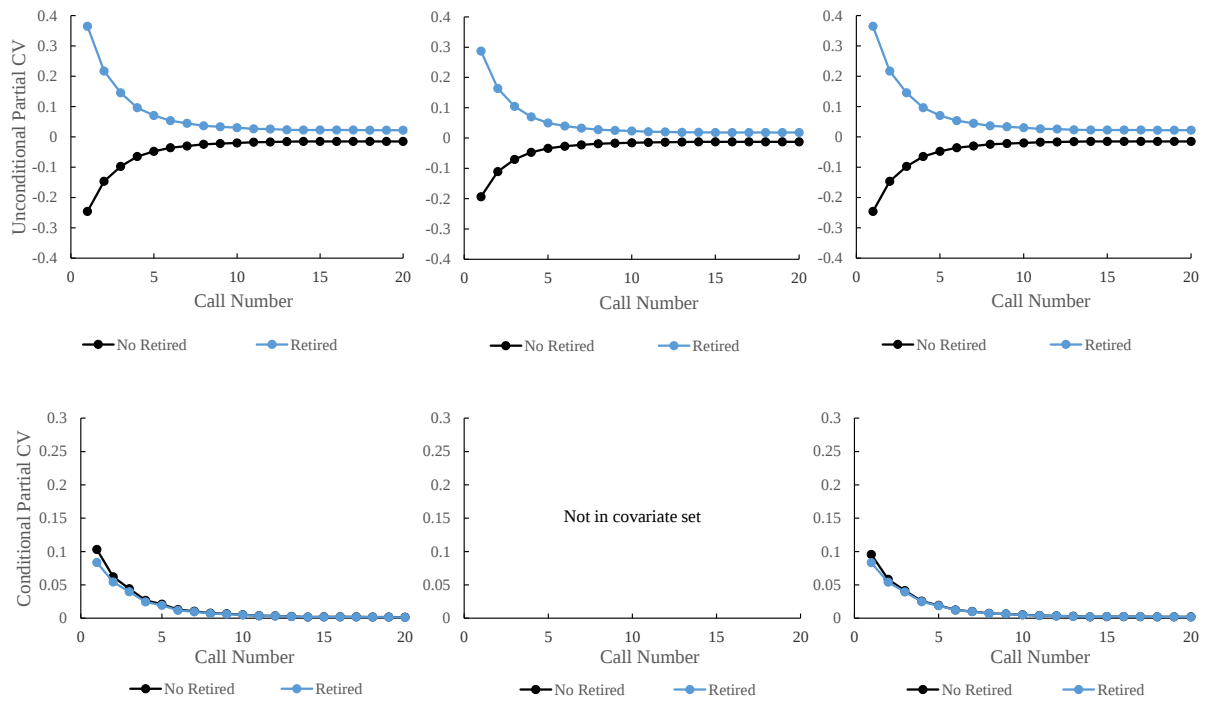


Figure A7: LFS unconditional and conditional partial by covariate R indicators and 95% CIs for HH attribute covariates given the three auxiliary covariate sets. The first column of graphs visualise indicators given no model selection sets, the second column given call five sets, and the third column given call 20 sets. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

NB: We mention here the sometimes large partial by covariate R indicator 95% CIs observed for the LFS in Figure A7 and also in the equivalent graphs for the LOS and OPN (see Figs. A8 & A9 below). For the LFS, 'Impaired individual in HH' intervals increase in width markedly between calls six and 11. Such increases also occur to varying degrees for the covariate and others in the other surveys. Sometimes they arise midway through call records as well, or intervals alternatively are large initially then decrease. Covariates involved include both those in auxiliary covariate sets (e.g. LOS 'Tenure') and those not in sets (e.g. LFS 'Impaired individual in HH'). These 95% CI increases arise when on their own covariates minimally affect response propensities (not shown). A univariate model is used to estimate propensities in partial indicator standard error calculations, with the term then used as denominator in the linearization used to approximate the variance of the R indicator from the variance of the standard deviation of the response propensities (see Schlomo et al. 2012). Consequently, when response propensity variation estimated in this manner is negligible, large errors are produced. Such 95% CIs need not necessarily be correlated with the covariate having a limited effect on representativeness. Response propensities frequently vary more at other calls, as reduced 95% CIs at these points indicate. When inflated 95% CIs occur initially, this may reflect the lower potential for propensities to vary when response rates are low (see Introduction). Moreover, point estimates are computed from propensities estimated given all covariates in sets, so inflated 95% CIs can arise even when they are not close to zero. We note here that the linearization used to approximate the variance of the CV from the variance of the standard deviation of the response propensities differs from that used to approximate the variance of the R indicator, and that partial by covariate CV 95% CIs are not similarly affected (see Fig. 2 in the main paper, and Figs. A1 & A2 in the Appendix).

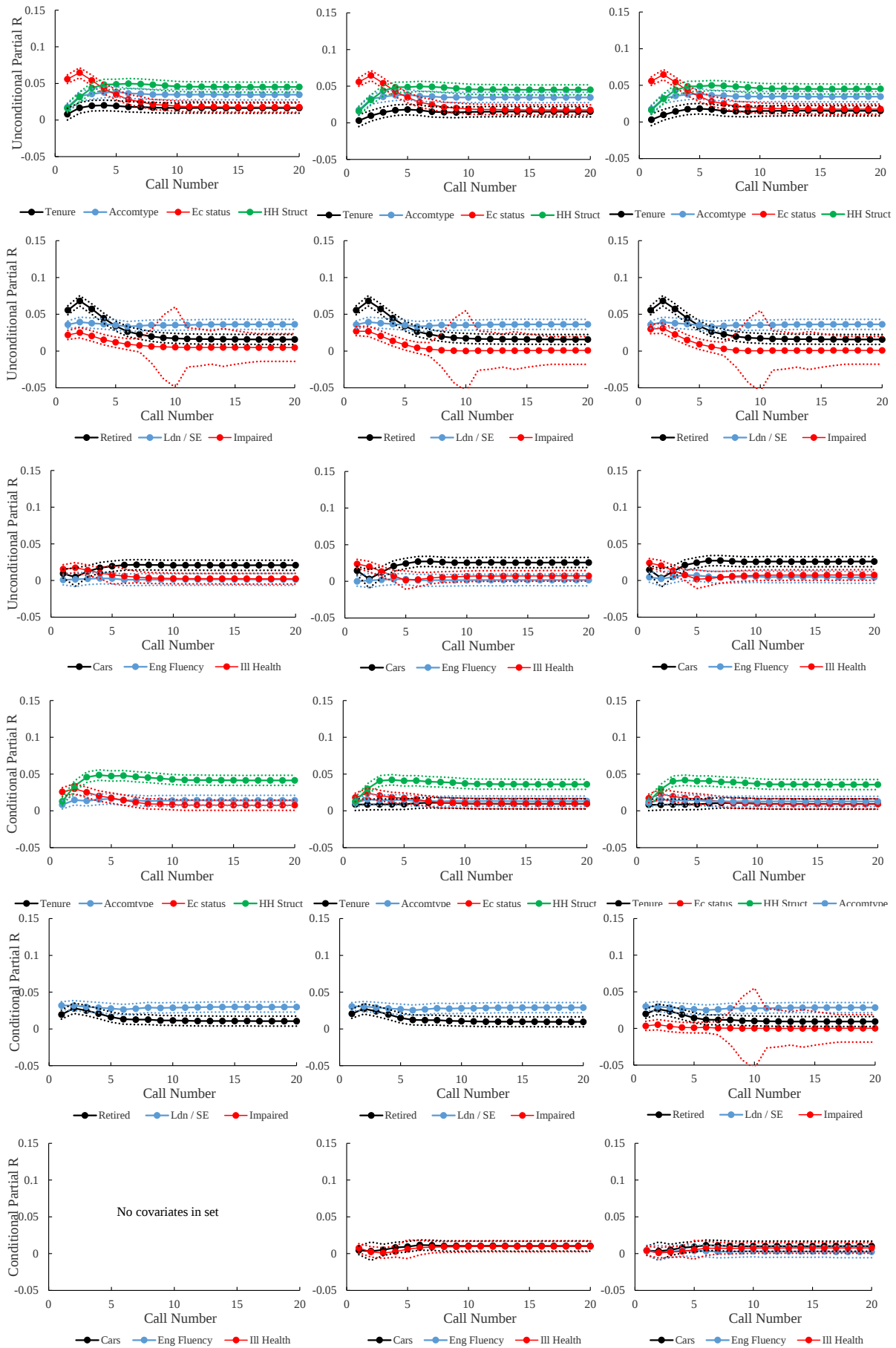


Figure A8: LOS unconditional and conditional partial by covariate R indicators and 95% CIs for HH attribute covariates given the three auxiliary covariate sets. The first column of graphs visualise indicators given no model selection sets, the second column given call five sets, and the third column given call 20 sets. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

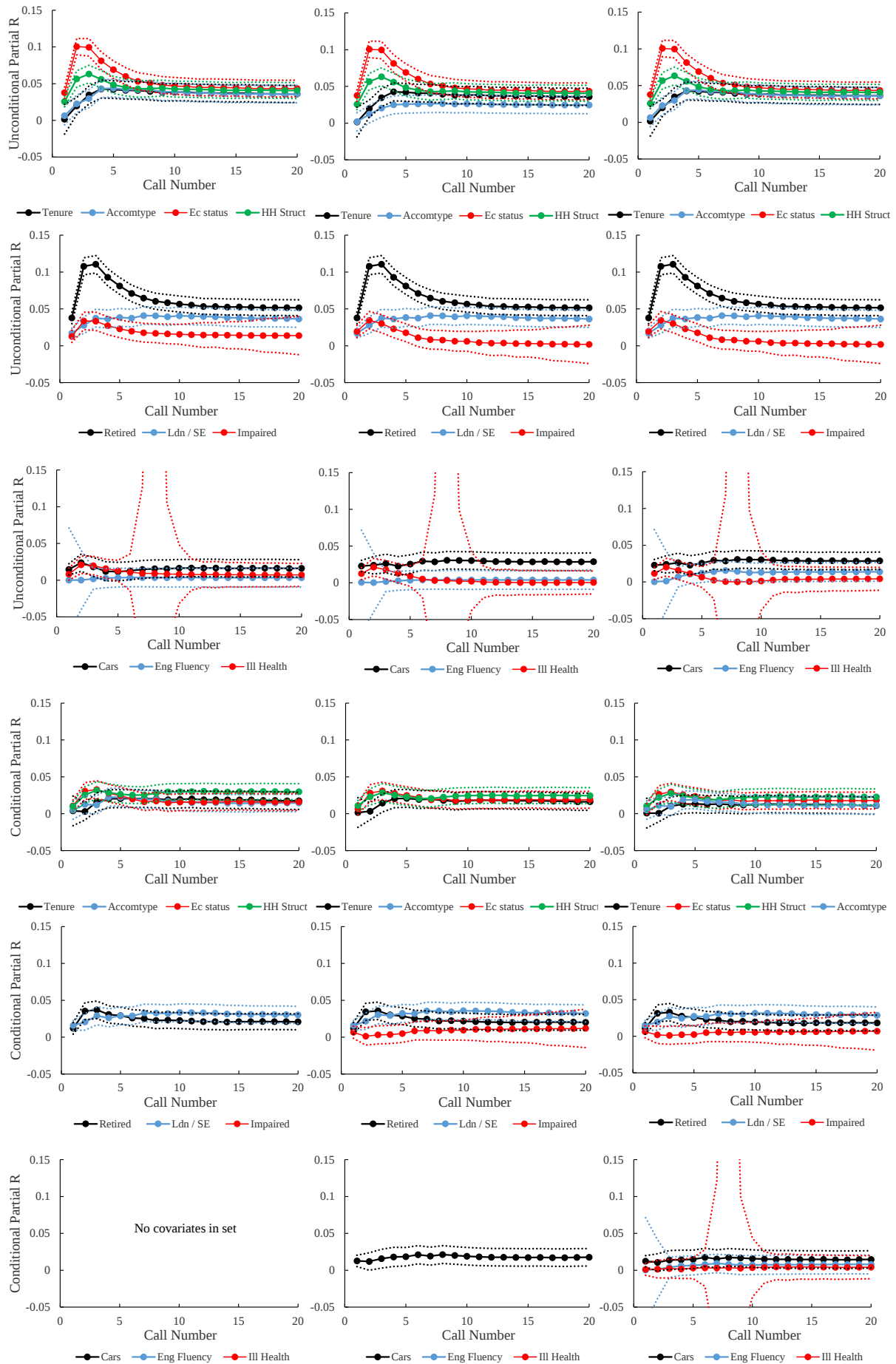


Figure A9: OPN unconditional and conditional partial by covariate R indicators and 95% CIs for HH attribute covariates given the three auxiliary covariate sets. The first column of graphs visualise indicators given no model selection sets, the second column are given call five sets, and the third column are given call 20 sets. All 10 covariates are included in unconditional indicator graphs. Conditional indicators are only calculable for covariates in sets.

