

## Supplementary Material

In this section we computed the same indicators as in the main text but the definition of OOP does not include the transport costs. Results do not show any remarkable difference.

**Table 1S:** Mean annual OOP payments, by income quintiles and residential area, Kenya. Values expressed in Ksh.

	Outpatient		Inpatient		Total	
	All households	Only households reporting outpatient OOP expenditures	All households	Only households reporting inpatient OOP expenditures	All households	Only households reporting OOP expenditures
Consumption quintile						
1 (Poorest)	5160	17765	1453	17159	7153	18197
s.e.	399	1314	164	1769	484	1188
2	5425	17718	1631	20289	7681	18697
s.e.	317	918	221	2535	443	1025
3	6845	21801	1633	21695	9169	21297
s.e.	558	1489	183	2028	594	1201
4	8567	28050	2166	30620	12014	28553
s.e.	801	2538	412	4292	1050	2399
5 (Richest)	7548	30459	1874	34420	11601	29444
s.e.	723	2688	327	4535	993	2521
Residence						
Rural	5283	20531	1358	20478	7591	21357
s.e.	232	819	105	1473	335	919
Urban	5843	26138	1554	29096	8210	25723
s.e.	484	1942	185	2685	557	1555
Total	5539	22903	1448	23964	7874	23239
s.e.	254	948	102	1416	313	853

Note: the values for the households reporting outpatient OOP expenditures are higher than the corresponding ones including transport costs (reported in table 1 in the main text) because they refer to two different subsamples. There are 4860 household that only have transport costs as OOP and therefore lower the total OOP payments, that are not in this subsample.

**Table 2S:** Poverty headcount index (HC) and catastrophic payment overshoot (O), Kenya.

	Outpatient OOP		Inpatient OOP		Total OOP	
	10% of tot exp	40% of non-food exp	10% of tot exp	40% of non-food exp	10% of tot exp	40% of non-food exp
<i>Head Count (HC)</i>						
Consumption quintile						
1 (Poorest)	11.9	9.7	3.1	2.7	15.8	12.8
s.e.	0.0056	0.0053	0.0027	0.0024	0.0064	0.0059
2	8.0	5.5	1.7	1.5	10.4	7.5
s.e.	0.0047	0.0036	0.0021	0.0021	0.0051	0.0041
3	7.2	4.2	1.8	1.3	9.5	5.8
s.e.	0.0056	0.0040	0.0026	0.0020	0.0062	0.0046
4	6.0	2.7	2.2	1.0	9.0	4.0
s.e.	0.0053	0.0031	0.0046	0.0023	0.0079	0.0039
5 (Richest)	3.5	1.2	1.0	0.3	5.4	1.9
s.e.	0.0046	0.0023	0.0026	0.0013	0.0052	0.0028
Residence						
Rural	7.8	4.1	2.0	4.8	10.7	19219.2
s.e.	0.0028	0.0025	0.0012	0.0011	0.0032	0.0029
Urban	6.6	1.6	1.9	4.8	9.1	3.2
s.e.	0.0045	0.0030	0.0026	0.0015	0.0051	0.0033
Total	7.2	4.6	2.0	1.3	9.9	6.3
s.e.	0.0025	0.0020	0.0013	0.0009	0.0029	0.0023
CI_E	<b>-0.05</b>	<b>-0.07</b>	<b>-0.01</b>	<b>-0.02</b>	<b>-0.06</b>	<b>-0.10</b>
<b>Weighted total HC</b>	<b>7.6</b>	<b>4.9</b>	<b>2.0</b>	<b>1.4</b>	<b>10.6</b>	<b>6.9</b>
<i>Overshoot (O)</i>						
Consumption quintile						
1 (Poorest)	7.6	30.2	1.8	4.9	10.7	43.0
s.e.	0.0124	0.0692	0.0032	0.0082	0.0142	0.1060
2	1.9	5.5	0.8	3.0	3.1	9.6
s.e.	0.0020	0.0069	0.0013	0.0075	0.0028	0.0117
3	1.7	3.9	0.4	1.1	2.4	5.9
s.e.	0.0023	0.0068	0.0006	0.0041	0.0027	0.0091
4	1.1	2.4	0.3	0.6	1.7	3.7
s.e.	0.0015	0.0066	0.0007	0.0017	0.0021	0.0076
5 (Richest)	0.4	0.5	0.1	0.1	0.7	0.8
s.e.	0.0007	0.0015	0.0003	0.0003	0.0010	0.0019
Residence						

Rural	3.3	12.1	0.8	2.5	4.6	17.5
s.e.	0.0043	0.0236	0.0010	0.0040	0.0047	0.0362
Urban	1.5	3.2	0.5	1.1	2.5	5.4
s.e.	0.0016	0.0043	0.0010	0.0025	0.0031	0.0070
Total	2.5	8.3	0.6	1.9	3.6	12.3
s.e.	0.0026	0.0137	0.0007	0.0025	0.0028	0.0211
CI_O	<b>-0.52</b>	<b>-0.76</b>	<b>-0.50</b>	<b>-0.72</b>	<b>-0.50</b>	<b>-0.76</b>
<b>Weighted total O</b>	<b>3.8</b>	<b>14.6</b>	<b>0.9</b>	<b>3.3</b>	<b>5.4</b>	<b>21.6</b>

**Table 3S:** Poverty headcount index (HC) and catastrophic payment overshoot (O), Kisumu, Machakos, Isiolo and Nyeri districts.

	Outpatient OOP		Inpatient OOP		Total OOP	
	10% of tot exp	40% of non-food exp	10% of tot exp	40% of non-food exp	10% of tot exp	40% of non-food exp
<b>Kisumu</b>						
<i>Head Count (HC)</i>	14.3	10.3	1.9	1.7	17.1	12.2
s.e.	0.0250	0.0177	0.0072	0.0071	0.0276	0.0206
CI_E	<b>-0.13</b>	<b>-0.43</b>	0.00	<b>-0.02</b>	<b>-0.15</b>	<b>-0.19</b>
<b>Weighted total HC</b>	<b>16.2</b>	<b>14.7</b>	<b>1.9</b>	<b>1.7</b>	<b>19.6</b>	<b>14.5</b>
<i>Overshoot (O)</i>						
Total	4.1	14.0	0.9	2.8	5.4	17.5
s.e.	0.0097	0.0435	0.0055	0.0185	0.0107	0.0481
CI_O	<b>-0.44</b>	<b>-0.68</b>	-0.01	-0.23	<b>-0.37</b>	<b>-0.61</b>
<b>Weighted total O</b>	<b>5.9</b>	<b>23.6</b>	<b>0.9</b>	<b>3.4</b>	<b>7.3</b>	<b>28.1</b>
<b>Machakos</b>						
<i>Head Count (HC)</i>	5.5	4.1	1.8	0.7	7.7	5.0
s.e.	0.0115	0.0083	0.0057	0.0036	0.0157	0.0098
CI_E	0.00	-0.03	0.02	-0.01	0.03	-0.03
<b>Weighted total HC</b>	<b>5.5</b>	<b>4.2</b>	<b>1.7</b>	<b>0.7</b>	<b>7.4</b>	<b>5.2</b>
<i>Overshoot (O)</i>						
Total	1.1	1.9	0.4	2.0	1.7	4.5
s.e.	0.0027	0.0051	0.0027	0.0147	0.0042	0.0183
CI_O	0.11	-0.30	-0.69	-0.94	-0.04	-0.55
<b>Weighted total O</b>	<b>0.9</b>	<b>2.5</b>	<b>0.7</b>	<b>3.9</b>	<b>1.8</b>	<b>7.0</b>
<b>Isiolo</b>						
<i>Head Count (HC)</i>	9.0	6.2	1.6	0.7	9.6	6.8

s.e.	0.0240	0.0177	0.0092	0.0044	0.0241	0.0175
CI_E	0.00	-0.03	0.02	0.00	0.01	-0.04
<b>Weighted total HC</b>	<b>8.9</b>	<b>6.4</b>	<b>1.6</b>	<b>0.7</b>	<b>9.5</b>	<b>7.0</b>
<i>Overshoot (O)</i>						
Total	2.8	5.5	0.2	0.2	3.2	6.2
s.e.	0.0112	0.0221	0.0011	0.0012	0.0129	0.0245
CI_O	-0.2	-0.3	-0.1	-0.3	-0.1	-0.3
<b>Weighted total O</b>	<b>3.3</b>	<b>7.4</b>	<b>0.2</b>	<b>0.3</b>	<b>3.7</b>	<b>8.2</b>
<b>Nyeri</b>						
<i>Head Count (HC)</i>						
Total	8.0	4.6	3.4	2.5	14.7	8.8
s.e.	0.0142	0.0080	0.0085	0.0063	0.0180	0.0102
CI_E	<b>-0.1</b>	<b>-0.1</b>	<b>0.0</b>	<b>-0.1</b>	<b>-0.1</b>	<b>-0.2</b>
<b>Weighted total HC</b>	<b>8.5</b>	<b>5.1</b>	<b>3.5</b>	<b>2.7</b>	<b>16.0</b>	<b>10.2</b>
<i>Overshoot (O)</i>						
Total	2.8	5.9	2.6	3.7	6.7	13.2
s.e.	0.0098	0.0270	0.0181	0.0207	0.0233	0.0484
CI_O	<b>-0.7</b>	<b>-0.9</b>	<b>-0.9</b>	<b>-0.8</b>	<b>-0.8</b>	<b>-0.8</b>
<b>Weighted total O</b>	<b>4.7</b>	<b>11.0</b>	<b>4.9</b>	<b>6.8</b>	<b>11.8</b>	<b>24.3</b>

**Table 4S:** Poverty head count and poverty gap before and after OOP payments, Kenya. Values expressed in Ksh.

Kenya	Gross of health payments		Net of health payments		Difference	
	Rural	Urban	Rural	Urban	Rural	Urban
Poverty headcount (%)	46.9	41.9	49.0	44.1	2.1	2.2
s.e.	0.01	0.01	0.01	0.02	0.00	0.00
Poverty gap (Ksh)	1306	2557	1429	2667	123	110
s.e.	16.6	53.7	19.6	58.5		
Normalized poverty gap (%)	40	43	44	44	-	-
s.e.	0.01	0.01	0.01	0.01		
Normalized mean positive poverty gap (%)	27.8	63.7	29.1	58.0	-	-

**Table 5S:** Poverty head count and poverty gap before and after OOP payments, Kisumu, Machakos, Isiolo and Nyeri districts.

	Gross of health payments		Net of health payments		Difference	
	Rural	Urban	Rural	Urban	Rural	Urban
<b>Kisumu</b>						
Poverty headcount (%)	48.6	65.4	52.9	66.7	4.3	1.3
s.e.	0.04	0.05	0.04	0.05	0.02	0.01
Poverty gap (Ksh)	1536.0	3077	1795	3192	259	115
s.e.	155	179	132	193		
Normalized poverty gap (%)	47.3	51.3	55.2	53.2	-	-
s.e.	0.05	0.03	0.04	0.03		
Normalized mean positive poverty gap (%)	31.6	47.0	33.9	47.9	-	-
<b>Machakos</b>						
Poverty headcount (%)	22.9	51.9	23.8	56.1	0.8	4.2
s.e.	0.06	0.05	0.07	0.04	0.01	0.01
Poverty gap (Ksh)	942	2041	969	2129	27	88
s.e.	142	159	137	192		
Normalized poverty gap (%)	29.0	34.0	29.8	35.5	-	-
s.e.	0.04	0.03	0.04	0.03		
Normalized mean positive poverty gap (%)	41.1	39.4	40.8	38.0	-	-
<b>Isiolo</b>						
Poverty headcount (%)	54.2	48.5	57.4	50.3	3.2	1.7
s.e.	0.06	0.07	0.06	0.07	0.01	0.01
Poverty gap (Ksh)	1352	2268	1471	2454	119	186
s.e.	52	194	72	108		
Normalized poverty gap (%)	41.6	37.8	45.2	40.9	-	-
s.e.	0.02	0.03	0.02	0.02		
Normalized mean positive poverty gap (%)	25.0	46.7	25.6	48.8	-	-
<b>Nyeri</b>						
Poverty headcount (%)	14.3	39.5	17.1	42.4	2.8	2.9
s.e.	0.03	0.07	0.03	0.07	0.01	0.01
Poverty gap (Ksh)	1026	2072	1199	2374	173	302
s.e.	115	218	132	350		
Normalized poverty gap (%)	31.5	34.6	36.9	39.6	-	-
s.e.	0.04	0.04	0.04	0.06		
Normalized mean positive poverty gap (%)	71.7	52.5	70.3	56.0	-	-

**Table 5S:** Probability of incurring catastrophic health care expenditures. Results expressed in odd ratios.

	(1)	(2)
	Prob. of catastrophic exp. (10% of tot exp)	Prob. of catastrophic exp. (40% of non-food exp)
<i>Head of the household</i>		
<i>Age group</i>		
15-24	1 (.)	1 (.)
25-34	1.020 (0.125)	1.157 (0.184)
35-44	0.828 (0.104)	0.954 (0.154)
45-54	0.956 (0.122)	0.990 (0.162)
55+	1.048 (0.138)	1.258 (0.209)
Female head	1.125* (0.0607)	0.977 (0.0641)
<i>Education</i>		
No or less than Primary	1 (.)	1 (.)
Primary	1.045 (0.0659)	1.049 (0.0751)
Secondary	1.038 (0.0782)	0.827* (0.0750)
Tertiary	0.929 (0.0990)	0.690** (0.0977)
<i>Employment status</i>		
Formal employment	1 (.)	1 (.)
Informal employment	1.062 (0.0863)	1.041 (0.112)
Not employed	0.931 (0.0821)	0.943 (0.108)
<i>Employment status</i>		
Never married	1 (.)	1 (.)
Married/living together	1.202 (0.124)	1.169 (0.157)

Divorced/separated	1.217 (0.147)	1.203 (0.185)
Widowed	1.123 (0.129)	1.250 (0.181)
<i>Consumption quintiles</i>		
1 Poorer	1 (.)	1 (.)
2	0.665*** (0.0367)	0.623*** (0.0387)
3	0.541*** (0.0332)	0.451*** (0.0325)
4	0.444*** (0.0312)	0.309*** (0.0272)
5 Richer	0.292*** (0.0262)	0.178*** (0.0217)
Any insured in the HH	1.123* (0.0605)	1.096 (0.0737)
Any chronic in the HH	2.476*** (0.105)	2.327*** (0.118)
Elderly in the HH	1.482*** (0.0952)	1.529*** (0.115)
<i>Household size</i>		
Group 1 (smaller)	1 (.)	1 (.)
2	1.001 (0.0509)	0.808*** (0.0488)
3 (bigger)	0.954 (0.0618)	0.731*** (0.0555)
Urban	1.152** (0.0612)	1.073 (0.0670)

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Observations	31008	30826
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Exponentiated coefficients; Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Both models include county dummies to better control for geographical heterogeneity