

1 **SUPPLEMENTARY MATERIAL 4: OUTPUT ADDITIONAL ANALYSES**

2 **Inverse probability weighted analyses**

3 To make our findings more representative to the Dutch breast cancer and colon patient  
 4 populations,[21] we performed inverse probability weighted analyses (Table C). We  
 5 determined whether the relative importance differed between the IPW models and our  
 6 main models by comparing the order of attributes in terms of relative impact. The  
 7 comparison revealed that the relative importance of attributes remained relatively  
 8 stable with only one small shift occurring at the end of the order: in the IPW models,  
 9 *volume* (5<sup>th</sup> of 6 most important in the main models) switched places with *waiting time 1*  
 10 (6<sup>th</sup> of 6 most important in the main models).

11

12 **Table C**

13 Results of mixed logit models, inverse probability weighted

<i>Model:</i>		<i>IPW models</i>				<i>Main models</i>
		<i>Coefficients</i>	<i>SE</i>	<i>P-value</i>	<i>Relative Impact (%)<sup>a</sup></i>	<i>Relative Impact (%)<sup>a</sup></i>
<b>Breast cancer</b>						
<i>Attributes</i>						
1) Volume	100 patients (ref.)	.	.	.	.	.
	350 patients	0.049	0.129	0.71	2.4	10.3
	450 patients	0.121	0.086	0.16	6.0	11.5
2) Waiting time 1	15 days (ref.)	.	.	.	.	.
	25 days	-0.163	0.097	0.09	8.1	10.9
3) Waiting time 2	25 days (ref.)	.	.	.	.	.
	45 days	-0.428	0.107	<0.01	21.1	25.6
4) Preserved breast contour	60% (ref.)	.	.	.	.	.
	80%	0.219	0.142	0.12	10.9	13.8
	90%	0.425	0.137	<0.01	20.9	21.4
5) Combination surgery	10% (ref.)	.	.	.	.	.
	30%	0.404	0.245	0.10	19.9	18.7
	60%	0.697	0.190	<0.01	33.5	40.3

1

6) Tumour residual	1% (ref.)	.	.	.	.	.
	5%	-1.295	0.271	<0.01	53.4	69.9
<i>SD of random parameters</i>						
6) Tumour residual	5%	0.662	0.165	<0.01		
<i>Number of individuals</i>		84				
<i>Number of observations</i>		972				
<i>Log-likelihood</i>		-247.747				
<b>Colon cancer</b>						
<i>Attributes</i>						
1) Volume	50 patients (ref.)	.	.	.	.	.
	150 patients	0.141	0.112	0.21	7.0	6.5
	200 patients	0.245	0.059	<0.01	12.2	10.8
2) Waiting time	60% (ref.)	.	.	.	.	.
	80%	0.416	0.126	<0.01	20.5	15.2
	90%	0.133	0.103	0.20	6.7	7.3
3) Tumour residual	85% (ref.)	.	.	.	.	.
	95%	0.059	0.063	0.35	3.0	7.9
4) Complications	10% (ref.)	.	.	.	.	.
	20%	-0.202	0.062	<0.01	10.1	8.6
5) Failure to rescue	5% (ref.)	.	.	.	.	.
	15%	-0.496	0.103	<0.01	23.8	20.9
<i>SD of random parameters</i>						
5) Failure to rescue	15%	0.407	0.116	<0.01		
<i>Number of individuals</i>		145				
<i>Number of observations</i>		1386				
<i>Log-likelihood</i>		-432.036				

14 <sup>a</sup>= expressed as the percentage change in choice probability relative to the base  
15 alternative (reference levels across all attributes). Ref. = reference category in the  
16 dummy coding for which the derived utility is standardized to zero.  
17

18 **Subgroups analyses**

19 On five occasions, differences in preferences across subgroups were observed.

20 Significant interaction terms are indicated in bold and highlighted: age (breast cancer

21 and colon cancer) and educational level (colon cancer). Given the distribution of

22 gender in the breast cancer population, no subgroup analysis was conducted across

23 gender.

24

25 **Table D**26 *Attributes of breast cancer interacted with age*

		<i>Coefficients</i>	<i>SE</i>	<i>P-value</i>
<i>Attributes</i>				
1) Volume	100 patients (ref.)	.	.	.
	350 patients	0.389	0.031	<0.01
	450 patients	0.333	0.080	<0.01
2) Waiting time 1	15 days (ref.)	.	.	.
	25 days	-0.265	0.077	<0.01
3) Waiting time 2	25 days (ref.)	.	.	.
	45 days	-0.617	0.010	<0.01
4) Preserved breast contour	60% (ref.)	.	.	.
	80%	0.299	0.160	0.06
	90%	0.464	0.188	0.01
5) Combination surgery	10% (ref.)	.	.	.
	30%	0.255	0.218	0.24
	60%	0.937	0.140	<0.01
6) Tumour residual	1% (ref.)	.	.	.
	5%	-2.350	0.228	<0.01
<i>Interaction terms<sup>a</sup></i>				
	Volume (350 patients) * 60 years and older	<b>-0.485</b>	<b>0.196</b>	<b>0.01</b>
	Volume (450 patients) * 60 years and older	<b>-0.247</b>	<b>0.074</b>	<b>&lt;0.01</b>
	Waiting time 1 (25 days) * 60 years and older	0.111	0.067	0.10
	Waiting time 2 (45 days) * 60 years and older	0.220	0.252	0.38
	Preserved breast contour (80%) * 60 years and older	-0.064	0.061	0.30
	Preserved breast contour (90%) * 60 years and older	-0.058	0.123	0.64
	Combination surgery (30%) * 60 years and older	0.062	0.451	0.89
	Combination surgery (60%) * 60 years and older	<b>-0.252</b>	<b>0.104</b>	<b>0.02</b>
	Tumour residual (5%) * 60 years and older	<b>1.298</b>	<b>0.093</b>	<b>&lt;0.01</b>
<i>SD of random parameters</i>				
6) Tumour residual	-5%	0.871	0.075	<0.01

Number of individuals	84
Number of observations	968
Log-likelihood	-185.958

27 <sup>a</sup>= respondents aged between 18 and 59 years were used as reference category.

28 Ref. = reference category.

29

### 30 Table E

31 Attributes of breast cancer interacted with educational level

		Coefficients	SE	P-value
<i>Attributes</i>				
1) Volume	100 patients (ref.)	.	.	.
	350 patients	0.446	0.423	0.29
	450 patients	0.501	0.382	0.19
2) Waiting time 1	15 days (ref.)	.	.	.
	25 days	-0.571	0.335	0.09
3) Waiting time 2	25 days (ref.)	.	.	.
	45 days	-1.262	0.637	0.05
4) Preserved breast contour	60% (ref.)	.	.	.
	80%	1.364	0.936	0.15
	90%	1.859	0.977	0.06
5) Combination surgery	10% (ref.)	.	.	.
	30%	1.059	0.709	0.14
	60%	2.786	1.384	0.04
6) Tumour residual	1% (ref.)	.	.	.
	5%	-4.213	1.841	0.02
<i>Interaction terms <sup>a</sup></i>				
Volume (350 patients) * moderate educational level		-0.270	0.450	0.55
Volume (350 patients) * high educational level		-0.149	0.463	0.75
Volume (450 patients) * moderate educational level		-0.357	0.400	0.37
Volume (450 patients) * high educational level		-0.131	0.407	0.75
Waiting time 1 (25 days) * moderate educational level		0.497	0.348	0.15
Waiting time 1 (25 days) * high educational level		0.236	0.355	0.51
Waiting time 2 (45 days) * moderate educational level		0.903	0.653	0.17
Waiting time 2 (45 days) * high educational level		0.642	0.660	0.33
Preserved breast contour (80%) * moderate educational level		-1.242	0.953	0.19
Preserved breast contour (80%) * high educational level		-1.015	0.957	0.29
Preserved breast contour (90%) * moderate educational level		-1.682	0.988	0.09

Preserved breast contour (90%) * high educational level		-1.289	0.991	0.19
Combination surgery (30%) * moderate educational level		-1.001	0.771	0.19
Combination surgery (30%) * high educational level		-0.578	0.783	0.46
Combination surgery (60%) * moderate educational level		-2.383	1.401	0.09
Combination surgery (60%) * high educational level		-1.628	1.406	0.25
Tumour residual (5%) * moderate educational level		2.864	1.861	0.12
Tumour residual (5%) * high educational level		1.624	1.876	0.39
<i>SD of random parameters</i>				
6) Tumour residual	-5%	0.934	0.200	0.00
<i>Number of individuals</i>	84			
<i>Number of observations</i>	966			
<i>Log-likelihood</i>	-184.356			

32 <sup>a</sup>= respondents with a low educational level were used as reference category.

33 Ref= reference category.

34

### 35 **Table F**

36 *Attributes of breast cancer interacted with subjective health*

		<i>Coefficients</i>	<i>SE</i>	<i>P-value</i>
<i>Attributes</i>				
1) Volume	100 patients (ref.)	.	.	.
	350 patients	-0.092	0.555	0.87
	450 patients	0.064	0.438	0.88
2) Waiting time 1	15 days (ref.)	.	.	.
	25 days	-0.900	0.576	0.12
3) Waiting time 2	25 days (ref.)	.	.	.
	45 days	-1.274	0.980	0.19
4) Preserved breast contour	60% (ref.)	.	.	.
	80%	0.621	0.879	0.48
	90%	-0.045	1.080	0.97
5) Combination surgery	10% (ref.)	.	.	.
	30%	1.498	1.351	0.27
	60%	0.649	1.549	0.68
6) Tumour residual	1% (ref.)	.	.	.
	5%	-1.712	1.856	0.36
<i>Interaction terms<sup>a</sup></i>				
	Volume (350 patients) * moderate health	0.289	0.581	0.62
	Volume (350 patients) * high health	0.298	0.583	0.61
	Volume (450 patients) * moderate health	0.102	0.458	0.82

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Volume (450 patients) * high health		0.207	0.460	0.65
Waiting time 1 (25 days) * moderate health		0.881	0.591	0.14
Waiting time 1 (25 days) * high health		0.665	0.585	0.26
Waiting time 2 (45 days) * moderate health		1.122	1.003	0.26
Waiting time 2 (45 days) * high health		0.682	0.991	0.49
Preserved breast contour (80%) * moderate health		-0.651	0.908	0.47
Preserved breast contour (80%) * high health		-0.309	0.897	0.73
Preserved breast contour (90%) * moderate health		0.078	1.111	0.94
Preserved breast contour (90%) * high health		0.540	1.095	0.62
Combination surgery (30%) * moderate health		-1.376	1.376	0.32
Combination surgery (30%) * high health		-0.926	1.387	0.50
Combination surgery (60%) * moderate health		-0.528	1.603	0.74
Combination surgery (60%) * high health		0.341	1.573	0.83
Tumour residual (5%) * moderate health		0.369	1.938	0.85
Tumour residual (5%) * high health		-0.544	1.907	0.78
<i>SD of random parameters</i>				
6) Tumour residual	-5%	0.942	0.208	0.00
<i>Number of individuals</i>				
	84			
<i>Number of observations</i>				
	966			
<i>Log-likelihood</i>				
	-181.752			

37 <sup>a</sup>= respondents with a (very) poor subjective health were used as reference category.

38 Ref. = reference category.

39

#### 40 Table G

41 Attributes of breast cancer interacted with stated choice behaviour

		Coefficients	SE	P-value
<i>Attributes</i>				
1) Volume	100 patients (ref.)	.	.	.
	350 patients	0.140	0.209	0.50
	450 patients	0.313	0.172	0.07
2) Waiting time 1	15 days (ref.)	.	.	.
	25 days	-0.407	0.147	0.01
3) Waiting time 2	25 days (ref.)	.	.	.
	45 days	-0.797	0.247	0.00
4) Preserved breast contour	60% (ref.)	.	.	.
	80%	0.258	0.256	0.31
	90%	0.673	0.246	0.01
5) Combination surgery	10% (ref.)	.	.	.
	30%	0.612	0.402	0.13
	60%	1.422	0.402	0.00
6) Tumour residual	1% (ref.)	.	.	.
	5%	-2.789	0.597	0.00
<i>Interaction terms<sup>a</sup></i>				
Volume (350 patients) * use comparative tool		-0.033	0.420	0.94

6

Volume (350 patients) * choose independently		0.161	0.259	0.53
Volume (450 patients) * use comparative tool		0.034	0.307	0.91
Volume (450 patients) * choose independently		-0.084	0.203	0.68
Waiting time 1 (25 days) * use comparative tool		0.238	0.278	0.39
Waiting time 1 (25 days) * choose independently		0.267	0.171	0.12
Waiting time 2 (45 days) * use comparative tool		0.353	0.411	0.39
Waiting time 2 (45 days) * choose independently		0.311	0.278	0.26
Preserved breast contour (80%) * use comparative tool		0.520	0.548	0.34
Preserved breast contour (80%) * choose independently		-0.099	0.308	0.75
Preserved breast contour (90%) * use comparative tool		-0.124	0.441	0.78
Preserved breast contour (90%) * choose independently		-0.358	0.281	0.20
Combination surgery (30%) * use comparative tool		0.061	0.782	0.94
Combination surgery (30%) * choose independently		-0.451	0.502	0.37
Combination surgery (60%) * use comparative tool		-0.230	0.639	0.72
Combination surgery (60%) * choose independently		-0.826	0.445	0.06
Tumour residual (5%) * use comparative tool		0.901	0.937	0.34
Tumour residual (5%) * choose independently		0.881	0.641	0.17
<i>SD of random parameters</i>				
6) Tumour residual	-5%	1.041	0.223	0.00
<i>Number of individuals</i>	84			
<i>Number of observations</i>	968			
<i>Log-likelihood</i>	-187.597			

42 <sup>a</sup>= respondents who indicated that they preferred to be advised by an expert when  
 43 choosing a health provider were used as reference category.  
 44 Ref. = reference category.  
 45

#### 46 **Table H**

47 *Attributes of colon cancer interacted with gender*

		Coefficients	SE	P-value
<i>Attributes</i>				
1) Volume	50 patients (ref.)	.	.	.
	150 patients	0.070	0.146	0.63
	200 patients	0.204	0.094	0.03
2) Waiting time	60% (ref.)	.	.	.
	80%	0.449	0.196	0.02
	90%	0.205	0.138	0.14
3) Tumour residual	85% (ref.)	.	.	.

7

	95%	0.221	0.111	0.05
4) Complications	10% (ref.)	.	.	.
	20%	-0.304	0.102	<0.01
5) Failure to rescue	5% (ref.)	.	.	.
	15%	-0.684	0.149	<0.01
<i>Interaction terms<sup>a</sup></i>				
Volume (150 patients) * female		0.087	0.178	0.63
Volume (200 patients) * female		0.011	0.115	0.93
Waiting time (80%) * female		-0.237	0.240	0.32
Waiting time (90%) * female		-0.142	0.168	0.40
Tumour residual (95%) * female		-0.105	0.134	0.43
Complications (20%) * female		0.203	0.122	0.10
Failure-to-rescue (15%) * female		0.308	0.176	0.08
<i>SD of random parameters</i>				
5) Failure to rescue	5%	0.544	0.103	<0.01
<i>Number of individuals</i>				
	145			
<i>Number of observations</i>				
	1162			
<i>Log-likelihood</i>				
	-335,354			

48 <sup>a</sup>= male respondents were used as reference category.

49 Ref. = reference category.

50

## 51 Table I

52 *Attributes of colon cancer interacted with age*

		Coefficients	SE	P-value
<i>Attributes</i>				
1) Volume	50 patients (ref.)	.	.	.
	150 patients	0.101	0.114	0.37
	200 patients	0.189	0.073	0.01
2) Waiting time	60% (ref.)	.	.	.
	80%	0.229	0.150	0.13
	90%	0.221	0.107	0.04
3) Tumour residual	85% (ref.)	.	.	.
	95%	0.300	0.085	<0.01
4) Complications	10% (ref.)	.	.	.
	20%	-0.206	0.078	0.01
5) Failure to rescue	5% (ref.)	.	.	.
	15%	-0.533	0.109	<0.01
<i>Interaction terms<sup>a</sup></i>				
Volume (150 patients) * 60 years and older		0.105	0.158	0.51
Volume (200 patients) * 60 years and older		0.096	0.101	0.34
Waiting time (80%) * 60 years and older		0.191	0.212	0.37
Waiting time (90%) * 60 years and older		-0.149	0.147	0.31
Tumour residual (95%) * 60 years and older		<b>-0.275</b>	<b>0.117</b>	<b>0.02</b>
Complications (20%) * 60 years and older		0.011	0.106	0.92
Failure-to-rescue (15%) * 60 years and older		0.122	0.149	0.41



*SD of random parameters*

5) Failure to rescue	5%	0.523	0.097	<0.01
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<i>Number of individuals</i>	145
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<i>Number of observations</i>	1316
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<i>Log-likelihood</i>	-377,881
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53 <sup>a</sup>= respondents aged between 18 and 59 years were used as reference category.

54 Ref. = reference category.

55

56 **Table J**

57 *Attributes of colon cancer interacted with educational level*

		<i>Coefficients</i>	<i>SE</i>	<i>P-value</i>
<i>Attributes</i>				
1) Volume	50 patients (ref.)	.	.	.
	150 patients	0.185	0.135	0.17
	200 patients	0.213	0.089	0.02
2) Waiting time	60% (ref.)	.	.	.
	80%	0.285	0.186	0.13
	90%	-0.092	0.130	0.48
3) Tumour residual	85% (ref.)	.	.	.
	95%	0.060	0.099	0.55
4) Complications	10% (ref.)	.	.	.
	20%	-0.065	0.089	0.47
5) Failure to rescue	5% (ref.)	.	.	.
	15%	-0.315	0.126	0.01
<i>Interaction terms<sup>a</sup></i>				
Volume (150 patients) * moderate educational level		-0.162	0.201	0.42
Volume (150 patients) * high educational level		0.072	0.202	0.72
Volume (200 patients) * moderate educational level		0.110	0.129	0.39
Volume (200 patients) * high educational level		-0.036	0.129	0.78
Waiting time (80%) * moderate educational level		-0.047	0.267	0.86
Waiting time (80%) * high educational level		0.141	0.269	0.60
Waiting time (90%) * moderate educational level		0.334	0.185	0.07
Waiting time (90%) * high educational level		<b>0.472</b>	<b>0.196</b>	<b>0.02</b>
Tumour residual (95%) * moderate educational level		0.089	0.147	0.54
Tumour residual (95%) * high educational level		0.247	0.154	0.11
Complications (20%) * moderate educational level		-0.175	0.134	0.19
Complications (20%) * high educational level		<b>-0.340</b>	<b>0.139</b>	<b>0.01</b>
Failure-to-rescue (15%) * moderate educational level		-0.207	0.187	0.27
Failure-to-rescue (15%) * high educational level		<b>-0.399</b>	<b>0.197</b>	<b>0.04</b>
<i>SD of random parameters</i>				
5) Failure to rescue	5%	0.553	0.104	<0.01

Number of individuals 145  
 Number of observations 1272  
 Log-likelihood -355,379

58 <sup>a</sup>= respondents with a low educational level were used as reference category.

59 Ref. = reference category.

60

61 **Table K**

62 *Attributes of colon cancer interacted with subjective health*

		Coefficients	SE	P-value
<i>Attributes</i>				
1) Volume	50 patients (ref.)	.	.	.
	150 patients	0.255	0.209	0.22
	200 patients	0.386	0.143	0.01
2) Waiting time	60% (ref.)	.	.	.
	80%	0.169	0.287	0.56
	90%	0.263	0.197	0.18
3) Tumour residual	85% (ref.)	.	.	.
	95%	0.190	0.161	0.24
4) Complications	10% (ref.)	.	.	.
	20%	-0.326	0.148	0.03
5) Failure to rescue	5% (ref.)	.	.	.
	15%	-0.406	0.217	0.06
<i>Interaction terms<sup>a</sup></i>				
Volume (150 patients) * moderate health		-0.229	0.248	0.35
Volume (150 patients) * (very) good health		-0.006	0.240	0.98
Volume (200 patients) * moderate health		-0.161	0.168	0.34
Volume (200 patients) * (very) good health		-0.190	0.158	0.23
Waiting time (80%) * moderate health		0.330	0.344	0.34
Waiting time (80%) * (very) good health		0.076	0.323	0.81
Waiting time (90%) * moderate health		-0.023	0.236	0.92
Waiting time (90%) * (very) good health		-0.233	0.224	0.30
Tumour residual (95%) * moderate health		0.050	0.190	0.79
Tumour residual (95%) * (very) good health		-0.103	0.182	0.57
Complications (20%) * moderate health		0.213	0.173	0.22
Complications (20%) * (very) good health		0.086	0.165	0.60
Failure-to-rescue (15%) * moderate health		0.023	0.253	0.93
Failure-to-rescue (15%) * (very) good health		-0.152	0.243	0.53
<i>SD of random parameters</i>				
5) Failure to rescue	5%	0.557	0.099	<0.01
Number of individuals		145		
Number of observations		1294		
Log-likelihood		-369,677		

63 <sup>a</sup>= respondents with a (very) poor subjective health were used as reference category.

10

64 *Ref. = reference category.*

65

66 **Table L**

67 *Attributes of colon cancer interacted with stated behaviour*

		<i>Coefficients</i>	<i>SE</i>	<i>P-value</i>
<i>Attributes</i>				
1) Volume	50 patients (ref.)	.	.	.
	150 patients	0.187	0.139	0.18
	200 patients	0.370	0.088	<0.01
2) Waiting time	60% (ref.)	.	.	.
	80%	0.454	0.177	0.01
	90%	0.209	0.125	0.09
3) Tumour residual	85% (ref.)	.	.	.
	95%	0.176	0.099	0.08
4) Complications	10% (ref.)	.	.	.
	20%	-0.064	0.089	0.47
5) Failure to rescue	5% (ref.)	.	.	.
	15%	-0.240	0.114	0.04
<i>Interaction terms<sup>a</sup></i>				
Volume (150 patients) * use comparative tool		-2.089	1.288	0.11
Volume (150 patients) * choose independently		0.086	0.210	0.68
Volume (200 patients) * use comparative tool		-0.574	0.623	0.36
Volume (200 patients) * choose independently		-0.198	0.132	0.13
Waiting time (80%) * use comparative tool		1.466	1.355	0.28
Waiting time (80%) * choose independently		-0.345	0.274	0.21
Waiting time (90%) * use comparative tool		-0.391	0.750	0.60
Waiting time (90%) * choose independently		-0.263	0.192	0.17
Tumour residual (95%) * use comparative tool		-0.001	0.837	1.00
Tumour residual (95%) * choose independently		-0.050	0.152	0.74
Complications (20%) * use comparative tool		0.117	0.580	0.84
Complications (20%) * choose independently		-0.136	0.139	0.33
Failure-to-rescue (15%) * use comparative tool		-1.634	1.000	0.10
Failure-to-rescue (15%) * choose independently		-0.190	0.178	0.29
<i>SD of random parameters</i>				
5) Failure to rescue	5%	0.452	0.122	<0.01
<i>Number of individuals</i>		145		
<i>Number of observations</i>		848		
<i>Log-likelihood</i>		-246,369		

68 <sup>a</sup>= respondents who indicated that they preferred to be advised by an expert when  
69 choosing a health provider were used as reference category.

70 *Ref. = reference category.*

71