

## SUPPLEMENTARY INFORMATION

**Supplementary Table 1** – First potentially curative colonic chemotherapy regimen given within first 4 months after surgery (only available for patients identified in SACT database).

<b>Chemotherapy regimen</b>	<b>% (n = 6 660)</b>
Bevacizumab	0.06
Bevacizumab + Capecitabine + Irinotecan	0.02
Bevacizumab + Capecitabine + Oxaliplatin	0.20
Bevacizumab + Capecitabine	0.08
Bevacizumab + Fluorouracil	0.05
Bevacizumab + Irinotecan + Fluorouracil	0.03
Bevacizumab + Oxaliplatin + Fluorouracil	0.06
Capecitabine	22.61
Capecitabine + Cetuximab + Irinotecan	0.05
Capecitabine + Irinotecan	0.24
Capecitabine + Oxaliplatin	38.90
Cetuximab	0.15
Cetuximab + Irinotecan + Fluorouracil	0.47
Cetuximab + Fluorouracil	0.02
Cetuximab + Oxaliplatin + Fluorouracil	0.23
Fluorouracil	6.17
Fluorouracil + Irinotecan + Oxaliplatin	0.17
Irinotecan	0.02
Irinotecan + Fluorouracil	1.89
Irinotecan + Fluorouracil + Panitumumab	0.05
Oxaliplatin	0.08
Oxaliplatin + Fluorouracil	27.87
Oxaliplatin + Fluorouracil + Panitumumab	0.15
Oxaliplatin + Raltitrexed	0.33
Raltitrexed	0.15

**Supplementary Table 2 – OPCS-4 and ICD-10 codes for chemotherapy use in HES-APC**

<b>OPCS-4 code</b>	<b>Classification</b>
X701	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 1
X702	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 2
X703	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 3
X704	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 4
X705	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 5
X708	Other specified procurement of drugs for chemotherapy for neoplasm in Bands 1-5
X709	Unspecified procurement of drugs for chemotherapy for neoplasm in Bands 1-5
X711	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 6
X712	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 7
X713	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 8
X714	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 9
X715	Procurement of drugs for chemotherapy for neoplasm for regimens in Band 10
X718	Other specified procurement of drugs for chemotherapy for neoplasm in Bands 6-10
X719	Unspecified procurement of drugs for chemotherapy for neoplasm in Bands 6-10
X721	Delivery of complex chemotherapy for neoplasm including prolonged infusional treatment at first attendance
X722	Delivery of complex parenteral chemotherapy for neoplasm at first attendance
X723	Delivery of simple parenteral chemotherapy for neoplasm at first attendance
X724	Delivery of subsequent element of cycle of chemotherapy for neoplasm
X728	Other specified delivery of chemotherapy for neoplasm
X729	Unspecified delivery of chemotherapy for neoplasm
X731	Delivery of exclusively oral chemotherapy for neoplasm
X738	Other specified delivery of oral chemotherapy for neoplasm
X739	Unspecified delivery of oral chemotherapy for neoplasm
X748	Other specified other chemotherapy drugs
X749	Unspecified other chemotherapy drugs
X352	Intravenous chemotherapy
X373	Intramuscular chemotherapy
X384	Subcutaneous chemotherapy
<b>ICD-10 code</b>	<b>Classification</b>
Z082	Follow-up exam after chemotherapy for malignant neoplasm
Z292	Other prophylactic chemotherapy
Z511	Chemotherapy session for neoplasm
Z512	Other chemotherapy
Z542	Convalescence following chemotherapy

**Supplementary Table 3(a) – Distribution of patient and hospital characteristics and their effect on ACT use in patients aged less than 70.**

	<b>Total (%) n=5,345</b>	<b>Received ACT (%) n=4,339</b>	<b>p-value (X<sup>2</sup>)</b>	<b>Adjusted odds ratios (95% CI)</b>	<b>p-value</b>
<b>Sex</b>			0.003		0.06
Male	2,892 (54.1)	2,306 (79.7)		1.0	
Female	2,453 (45.9)	2,033 (82.9)		1.15 (1.00-1.34)	
<b>Socioeconomic status (IMDQ)</b>			<0.001		0.05
1 (most deprived)	933 (17.5)	708 (75.9)		1.0	
2	950 (17.8)	774 (81.5)		1.24 (1.00-1.55)	
3	1,162 (21.8)	948 (81.6)		1.21 (0.97-1.52)	
4	1,158 (21.7)	942 (81.4)		1.17 (0.93-1.46)	
5 (least deprived)	1,131 (21.2)	962 (85.1)		1.40 (1.12-1.75)	
Missing	11	5			
<b>RCS Charlson score</b>			<0.001		<0.001
0	3,337 (65.8)	2,831 (84.8)		1.0	
1	1,307 (25.8)	1,034 (79.1)		0.85 (0.70-1.03)	
≥2	425 (8.4)	268 (63.1)		0.52 (0.42-0.64)	
Missing	276	206			
<b>Performance status</b>			<0.001		<0.001
0	2,983 (64.6)	2,537 (85.1)		1.0	
1	1,235 (26.8)	975 (79.0)		0.82 (0.68-1.00)	
2	314 (6.8)	224 (71.3)		0.58 (0.43-0.79)	
≥3	83 (1.8)	34 (41.0)		0.22 (0.13-0.35)	
Missing	730	569			
<b>ASA fitness grade</b>			<0.001		<0.001
I	1,080 (21.4)	938 (86.9)		1.0	
II	2,984 (59.2)	2,512 (84.2)		0.98 (0.79-1.21)	
III	898 (17.8)	615 (68.5)		0.56 (0.43-0.72)	
IV or V	77 (1.5)	33 (42.9)		0.26 (0.16-0.42)	
Missing	306	241			
<b>Urgency of resection</b>			<0.001		0.011
Elective/scheduled	4,042 (75.7)	3,332 (82.4)		1.0	
Emergency/urgent	1,299 (24.3)	1,003 (77.2)		0.78 (0.65-0.95)	
Missing	4	4			
<b>Surgical access</b>			<0.001		0.027
Open	2,052 (38.6)	1,595 (77.7)		1.0	
Laparoscopic-converted	462 (8.7)	365 (79.0)		1.04 (0.81-1.33)	
Laparoscopic	2,808 (52.8)	2,361 (84.1)		1.26 (1.06-1.50)	
Missing	23	23			
<b>Pathological T-stage</b>			0.244		0.109
T1	138 (2.6)	103 (74.6)		1.0	
T2	371 (6.9)	305 (82.2)		1.60 (1.01-2.53)	
T3	2,658 (49.8)	2,162 (81.3)		1.62 (1.08-2.42)	
T4	2,175 (40.7)	1,766 (81.2)		1.69 (1.11-2.56)	
Missing	3	3			
<b>Pathological N-stage</b>			0.007		0.002
N1	3,314 (62.0)	2,653 (80.1)		1.0	
N2	2,031 (38.0)	1,686 (83.0)		1.27 (1.09-1.47)	
<b>30-day readmission</b>			0.002		0.005
No	4,832 (90.4)	3,949 (81.7)		1.0	
Yes	513 (9.6)	390 (76.0)		0.74 (0.60-0.91)	
<b>University teaching hospital</b>			0.246		0.283
No	3,914 (73.2)	3,192 (81.6)		1.0	
Yes	1,431 (26.8)	1,147 (80.2)		0.90 (0.74-1.09)	
<b>On-site chemotherapy facilities</b>			0.355		0.405
No	614 (11.5)	490 (79.8)		1.0	
Yes	4,731 (88.5)	3,849 (81.4)		1.10 (0.88-1.36)	
<b>High volume centre</b>			0.403		0.952
No	1,125 (21.1)	923 (82.0)		1.0	
Yes	4,220 (79.0)	3,416 (81.0)		0.99 (0.80-1.23)	

**Supplementary Table 3(b)** – Distribution of patient and hospital characteristics and their effect on ACT use in patients aged 70 and over.

	Total (%) n=6,587	Received ACT (%) n=2,900	p-value (X <sup>2</sup> )	Adjusted odds ratios (95% CI)	p-value
<b>Sex</b>			<0.001		0.006
Male	3,335 (50.6)	1,541 (46.2)		1.0	
Female	3,252 (49.4)	1,359 (41.8)		0.86 (0.77-0.96)	
<b>Socioeconomic status (IMDQ)</b>			0.002		0.020
1 (most deprived)	882 (13.4)	353 (40.0)		1.0	
2	1,040 (15.8)	419 (40.3)		1.02 (0.80-1.30)	
3	1,441 (21.9)	654 (45.4)		1.34 (1.09-1.65)	
4	1,584 (24.1)	724 (45.7)		1.23 (0.99-1.53)	
5 (least deprived)	1,628 (24.8)	746 (45.8)		1.33 (1.07-1.66)	
Missing	12	4			
<b>RCS Charlson score</b>			<0.001		<0.001
0	3,091 (49.6)	1,594 (51.6)		1.0	
1	2,037 (32.7)	879 (43.2)		0.76 (0.66-0.88)	
≥2	1,099 (17.7)	302 (27.5)		0.49 (0.41-0.58)	
Missing	360	125			
<b>Performance status</b>			<0.001		<0.001
0	2,006 (36.1)	1,187 (59.2)		1.0	
1	2,189 (39.4)	999 (45.6)		0.83 (0.70-0.97)	
2	1,005 (18.1)	297 (29.6)		0.51 (0.42-0.63)	
≥3	358 (6.4)	33 (9.2)		0.15 (0.10-0.23)	
Missing	1,029	384			
<b>ASA fitness grade</b>			<0.001		<0.001
I	389 (6.3)	244 (62.7)		1.0	
II	3,107 (50.5)	1,714 (55.2)		0.91 (0.72-1.16)	
III	2,374 (38.6)	724 (30.5)		0.52 (0.40-0.67)	
IV or V	288 (4.7)	39 (13.5)		0.21 (0.13-0.33)	
Missing	429	179			
<b>Urgency of resection</b>			<0.001		0.007
Elective/scheduled	4,963 (75.5)	2,336 (47.1)		1.0	
Emergency/urgent	1,609 (24.5)	557 (34.6)		0.79 (0.67-0.94)	
Missing	15	7			
<b>Surgical access</b>			<0.001		0.004
Open	2,833 (43.1)	1,094 (38.6)		1.0	
Laparoscopic-converted	509 (7.8)	215 (42.2)		0.95 (0.72-1.26)	
Laparoscopic	3,227 (49.1)	1,586 (49.2)		1.27 (1.08-1.50)	
Missing	18	5			
<b>Pathological T-stage</b>			0.036		0.040
T1	103 (1.6)	52 (50.5)		1.0	
T2	335 (5.1)	166 (49.6)		1.09 (0.65-1.83)	
T3	3,318 (50.4)	1,477 (44.5)		1.31 (0.86-2.00)	
T4	2,829 (43.0)	1,205 (42.6)		1.49 (0.97-2.30)	
Missing	2	0			
<b>Pathological N-stage</b>			<0.001		<0.001
N1	4,306 (65.4)	1,811 (42.1)		1.0	
N2	2,281 (34.6)	1,089 (47.7)		1.34 (1.17-1.53)	
<b>30-day readmission</b>			<0.001		<0.001
No	6,089 (92.4)	2,726 (44.8)		1.0	
Yes	498 (7.6)	174 (34.9)		0.59 (0.48-0.74)	
<b>University teaching hospital</b>			0.848		0.792
No	4,966 (75.4)	2,183 (44.0)		1.0	
Yes	1,621 (24.6)	717 (44.2)		0.96 (0.73-1.27)	
<b>On-site chemotherapy facilities</b>			0.928		0.571
No	722 (11.0)	319 (44.2)		1.0	
Yes	5,865 (89.0)	2,581 (44.0)		0.94 (0.74-1.18)	
<b>High volume centre</b>			0.399		0.805
No	1,518 (23.1)	654 (43.1)		1.0	
Yes	5,069 (77.0)	2,246 (44.3)		1.04 (0.78-1.38)	

**Supplementary Table 4** – Proportion of patients aged  $\geq 70$  years receiving ACT according to comorbidities, performance status and ASA grade.

	<b>70-74 years n=1 996</b>		<b>75-79 years n=1 976</b>		<b><math>\geq 80</math> years n=2 615</b>	
	<b>ACT n=1 423</b>	<b>No ACT n=573</b>	<b>ACT n=992</b>	<b>No ACT n=984</b>	<b>ACT n=485</b>	<b>No ACT n=2,130</b>
<b>RCS Charlson score</b>						
0/1	1 233 (74.9)	413 (25.1)	836 (54.6)	695 (45.4)	404 (20.7)	1 547 (79.3)
$\geq 2$	138 (51.9)	128 (48.1)	107 (32.0)	227 (68.0)	57 (11.4)	442 (88.6)
Missing	52	32	49	62	24	141
<b>Performance status</b>						
0/1	1 085 (74.7)	367 (25.3)	747 (56.9)	565 (43.1)	354 (24.7)	1 077 (75.3)
$\geq 2$	141 (55.1)	115 (44.9)	115 (31.6)	249 (68.4)	74 (10.0)	669 (90.0)
Missing	197	91	130	170	57	384
<b>ASA fitness grade</b>						
I/II	1 042 (78.8)	280 (21.2)	612 (59.5)	417 (40.5)	304 (26.6)	841 (73.5)
III-V	307 (53.9)	263 (46.1)	310 (39.0)	485 (61.0)	146 (11.3)	1 151 (88.7)
Missing	74	30	70	82	35	138