Supplemental material

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Supplementary File 7.

The summary of best-fitted models, equations of the predicted case, and several forecasted scenarios between 2020 and 2029.

| | Young Patients (<50 years old) | | | | | Old Patients (≥50 years old) | | | | | All Patients | | | | |
| | Tumor Locations | | | Side Involvement | | Tumor Locations | | | Side Involvement | | Tumor Locations | | | Side Involvement | |
	CRC	Colon	Rectum	Right-sided CRC	Left-sided CRC	CRC	Colon	Rectum	Right-sided CRC	Left-sided CRC	CRC	Colon	Rectum	Right-sided CRC	Left-sided CRC
Best-Fitted Model	Exponential Growth	Exponential Growth	Exponential Growth	Quadratic	Quadratic	Quadratic	Quadratic	Linear	Quadratic	S-shaped	Exponential Growth	Exponential Growth	Exponential Growth	Quadratic	Exponential Growth
Predicted Case Equation	$Y_t = 48.2453 \times (1.0198^t)$	$Y_t = 9.351 \times (1.0924^t)$	$Y_t = 39.85 \times (0.9903^t)$	$Y_t = 2.79 + 1.86t - 0.113t^2$	$Y_t = 46.33 - 1.26t + 0.161t^2$	$Y_t = 77.3 + 1.84t + 0.016t^2$	$Y_t = 29.82 - 1.02t + 0.233t^2$	$Y_t = 53.11 + 0.255t$	$Y_t = 14.38 - 0.77t + 0.154t^2$	$Y_t = 10^3 / (10.0061 + (5.88632 \times 0.938146^t))$	$Y_t = 125.235 \times (1.0223^t)$	$Y_t = 34.58 \times (1.0638^t)$	$Y_t = 92.3161 \times (0.9991^t)$	$Y_t = 17.17 + 1.08t + 0.041t^2$	$Y_t = 108.176 \times (1.0141^t)$
MAPE	10.9230	20.8294	9.3215	34.2056	11.9922	7.4248	7.2590	10.5491	15.1707	7.6702	8.348	9.1430	9.042	17.8277	8.952
MAD	6.2589	3.7308	3.5723	2.8790	5.4062	6.4832	2.40093	5.5074	2.0717	5.5748	12.282	4.9466	8.529	4.2554	10.694
MSD	61.3589	19.9062	23.4688	11.7923	38.5144	67.3214	8.26099	66.8562	6.4315	71.8833	212.125	41.4342	140.117	26.4743	169.916
p-value of slope	0.200	0.005	0.477	0.217	0.342	0.043	0.001	0.774	0.006	0.267	0.062	<0.001	0.948	0.018	0.252
2020	61.08	27.00	35.47	8.79	54.40	101.73	51.21	56.16	27.25	78.48	163.16	72.65	91.35	36.04	127.94
2021	62.29	29.50	35.13	7.82	57.16	103.98	56.02	56.42	30.33	79.54	166.80	77.29	91.27	38.15	129.74
2022	63.53	32.23	34.79	6.62	60.25	106.26	61.30	56.67	33.71	80.55	170.52	82.22	91.19	40.33	131.56
2023	64.79	35.20	34.45	5.20	63.66	108.58	67.04	56.93	37.40	81.53	174.32	87.47	91.11	42.60	133.42
2024	66.07	38.46	34.12	3.55	67.38	110.92	73.25	57.18	41.39	82.47	178.21	93.05	91.03	44.94	135.29
2025	67.38	42.01	33.79	1.68	71.44	113.30	79.93	57.44	45.70	83.37	182.18	98.99	90.95	47.37	137.20
2026	68.72	45.89	33.46	-0.42	75.81	115.71	87.07	57.69	50.31	84.24	186.24	105.31	90.87	49.88	139.13
2027	70.09	50.13	33.14	-2.75	80.50	118.16	94.68	57.95	55.23	85.06	190.39	112.03	90.79	52.48	141.09
2028	71.48	54.76	32.82	-5.30	85.52	120.64	102.76	58.20	60.45	85.85	194.63	119.18	90.71	55.15	143.08
2029	72.90	59.82	32.50	-8.08	90.85	123.15	111.30	58.45	65.99	86.61	198.97	126.78	90.63	57.91	145.09
Total ten years	66.83	41.50	33.97	1.71	70.70	112.24	78.46	57.31	44.77	82.77	180.54	97.50	90.99	46.49	136.35
Mean per year	668.32	415.01	339.68	17.11	706.97	1122.43	784.55	573.09	447.74	827.71	1805.41	974.96	909.89	464.85	1363.53

Notes:

- Y_t is the variable (equation for predicted cases), and t is the time unit (year) value.
- The best-fitted model and the most precise predicted case equation were decided from the one model that had the lowest accuracy value for the three measured parameters (i.e., MAPE, MAD, and MSD) or at least having two lowest parameters out of the three, or at least having the lowest value for MAPE if the two former conditions were not met.
- P-value was obtained from the ANOVA test for curve estimation

Abbreviation:

CRC, colorectal cancer; MAPE, mean absolute percent error; MAD, mean absolute deviation; MSD, mean square deviation.