

Supplementary Online Content

Janczewski LM, Browner AE, Cotler JH, et al. Survival among patients with high-risk gastrointestinal cancers during the COVID-19 pandemic. *JAMA Netw Open*. 2024;7(3):e240160. doi:10.1001/jamanetworkopen.2024.0160

eFigure 1. CONSORT Diagram

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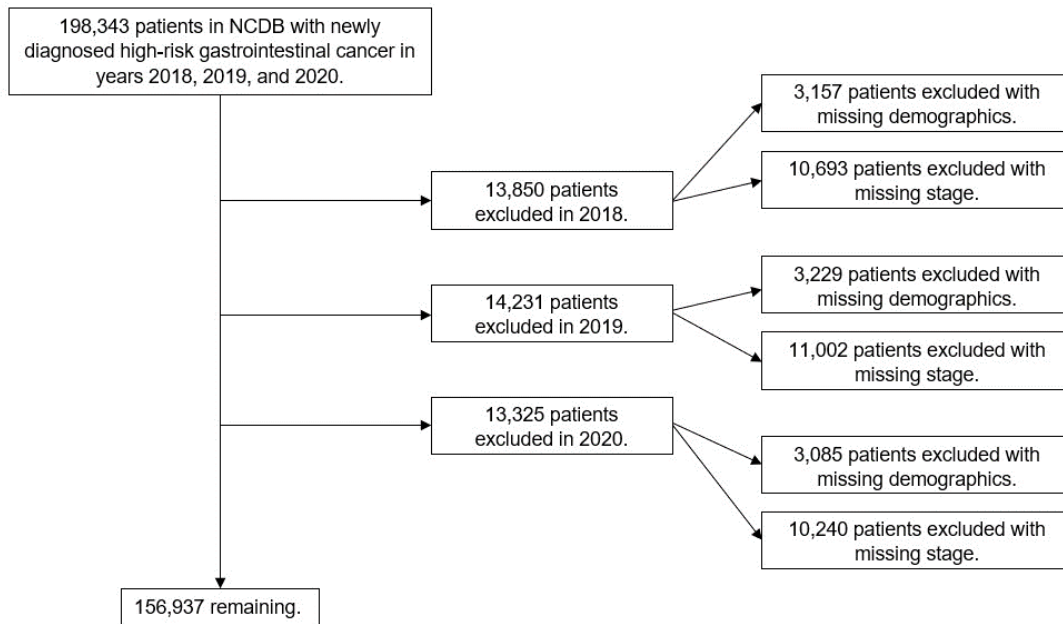
eTable 3. Clinical Stage at Diagnosis by Year Among Patients With Esophageal, Gastric, Primary Liver, and Pancreatic Cancers Diagnosed in 2018 to 2020

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eFigure 3. One-Year Survival Among Patients With Esophageal, Gastric, Primary Liver, and Pancreatic Cancers Diagnosed in 2018 to 2020

This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure 1. CONSORT Diagram



eTable 1. Overall 1-Year Mortality, 30-Day Operative Mortality, and 90-Day Operative Mortality by Year Among Patients With High-Risk Gastrointestinal Cancers in 2018 to 2020

	Year			p-value
	2018, N (%)	2019, N (%)	2020, N (%)	
<i>Alive at 1-year^a</i>	26,458 (50.7)	27,396 (50.7)	24,023 (47.4)	<0.001
<i>1-year Mortality</i>	25,705 (49.3)	26,675 (49.3)	26,680 (52.6)	
<i>Alive at 30-days^b</i>	13,070 (97.4)	13,319 (97.5)	11,908 (96.5)	<0.001
<i>30-day Mortality</i>	282 (2.1)	269 (2.0)	260 (2.1)	
<i>Unknown</i>	64 (0.5)	69 (0.5)	171 (1.4)	
<i>Alive at 90-days^b</i>	12,730 (94.9)	12,897 (94.5)	11,429 (92.6)	<0.001
<i>90-day Mortality</i>	581 (4.3)	607 (4.4)	568 (4.6)	
<i>Unknown</i>	105 (0.8)	153 (1.1)	342 (2.8)	

^a Includes the entire patient cohort of 156,937 patients diagnosed with high-risk gastrointestinal cancers (52,163 in 2018, 54,071 in 2019, and 50,703 in 2020).

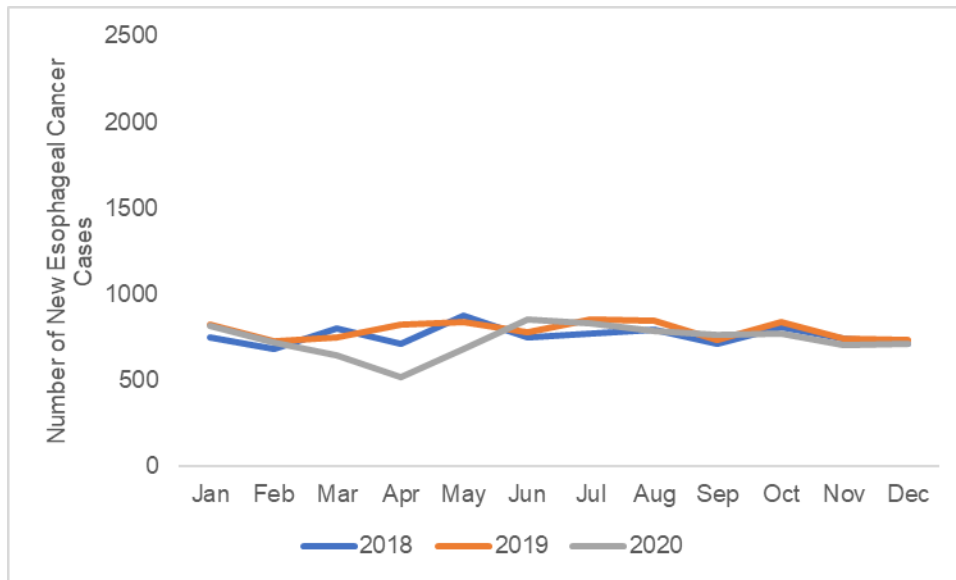
^b Represents short-term operative mortality only and thus limited to only patients who underwent curative-intent surgical resection, 39,412 patients (13,416 in 2018, 13,657 in 2019, and 12,339 in 2020).

eTable 2. Treatment of High-Risk Gastrointestinal Cancer Diagnoses in 2018 to 2020

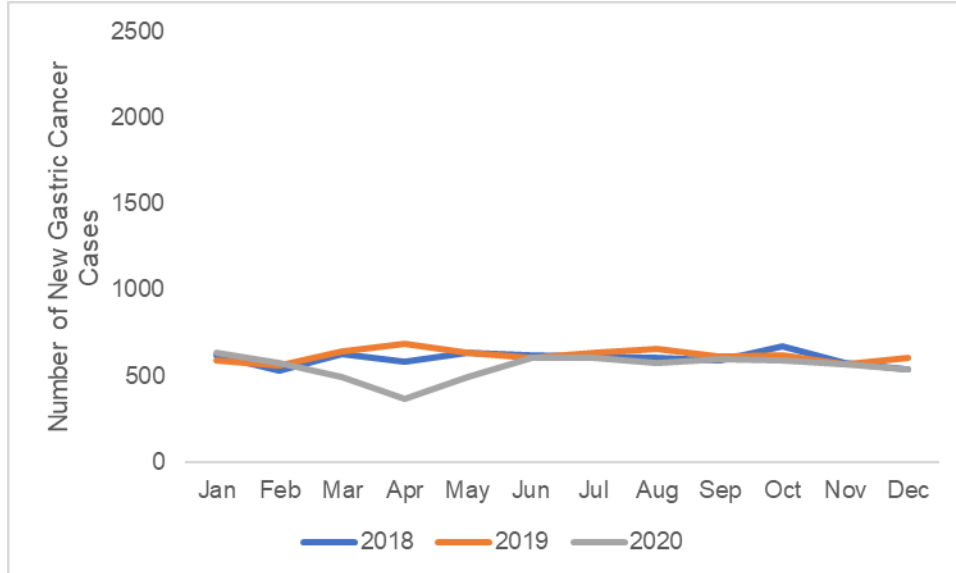
	Year			p-value
	2018, N (%)	2019, N (%)	2020, N (%)	
<i>Surgery</i>	13,416 (25.7)	13,657 (25.3)	12,339 (24.3)	<0.001
<i>No Surgery</i>	36,782 (70.5)	38,363 (70.9)	36,583 (71.2)	
<i>Unknown</i>	1,965 (3.8)	2,051 (3.8)	1,781 (3.5)	
<i>Systemic Therapy</i>	28,892 (55.4)	29,903 (55.3)	27,359 (54.0)	<0.001
<i>No Systemic Therapy</i>	22,719 (43.6)	23,612 (43.7)	22,842 (45.1)	
<i>Unknown</i>	552 (1.1)	556 (1.0)	502 (0.9)	
<i>Radiotherapy</i>	13,435 (25.8)	13,875 (25.7)	12,552 (24.8)	<0.001
<i>No Radiotherapy</i>	38,496 (73.9)	39,932 (73.8)	37,873 (74.7)	
<i>Unknown</i>	232 (0.4)	264 (0.5)	278 (0.5)	

eFigure 2. Monthly Incidence of High-Risk Gastrointestinal Cancer Diagnoses in 2018 to 2020 for Esophageal, Gastric, Primary Liver, and Pancreatic Cancers

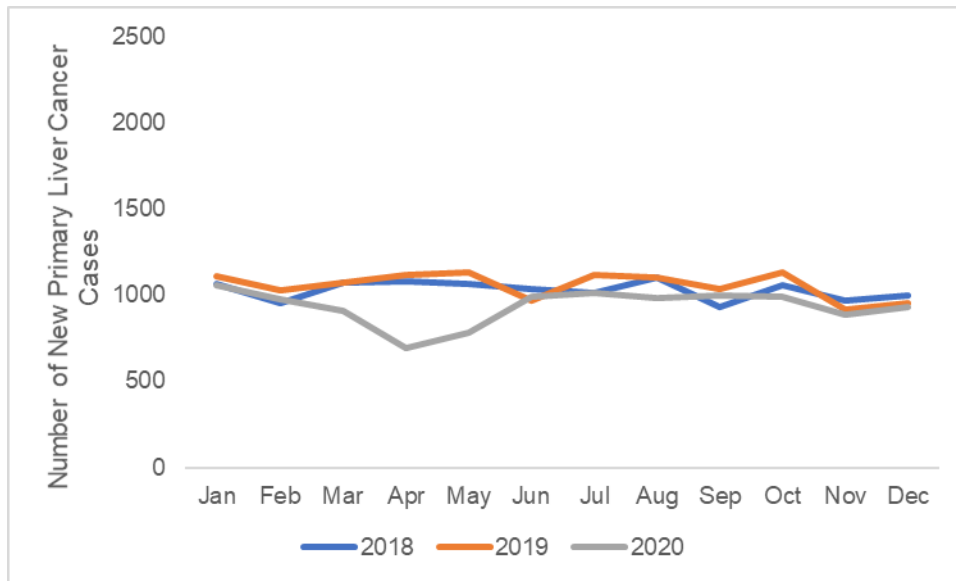
a) Esophageal cancer



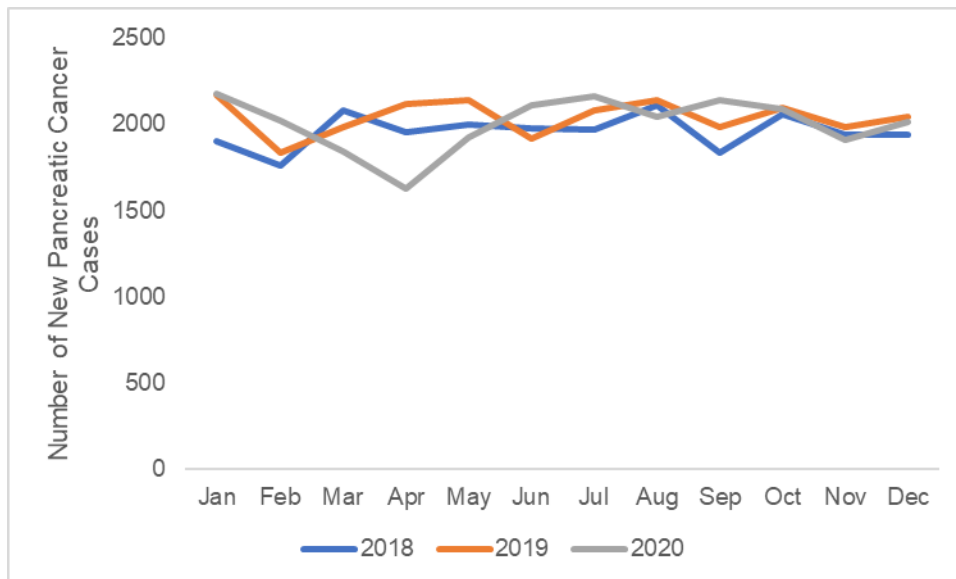
b) Gastric cancer



c) Primary liver cancer



d) Pancreatic cancer



eTable 3. Clinical Stage at Diagnosis by Year Among Patients With Esophageal, Gastric, Primary Liver, and Pancreatic Cancers Diagnosed in 2018 to 2020

		Year		
		2018, N (%)	2019, N (%)	2020, N (%)
Esophagus	<i>Stage I</i>	917 (10.1)	944 (10.0)	791 (9.0)
	<i>Stage II</i>	1,063 (11.7)	1,068 (11.3)	974 (11.1)
	<i>Stage III</i>	2,985 (32.8)	3,001 (31.7)	2,737 (31.1)
	<i>Stage IV</i>	4,140 (45.5)	4,466 (47.1)	4,292 (48.8)
Gastric	<i>Stage I</i>	1,697 (23.6)	1,796 (24.2)	1,466 (22.1)
	<i>Stage II</i>	1,060 (14.7)	1,102 (14.9)	887 (13.4)
	<i>Stage III</i>	970 (13.5)	988 (13.3)	881 (13.3)
	<i>Stage IV</i>	3,465 (48.2)	3,524 (47.6)	3,396 (51.2)
Liver	<i>Stage I</i>	4,358 (35.3)	4,406 (34.7)	3,786 (33.8)
	<i>Stage II</i>	2,759 (22.4)	2,842 (22.4)	2,350 (21.0)
	<i>Stage III</i>	2,850 (23.1)	2,916 (23.0)	2,617 (23.3)
	<i>Stage IV</i>	2,370 (19.2)	2,522 (19.9)	2,461 (21.9)
Pancreas	<i>Stage I</i>	5,406 (23.0)	5,936 (24.2)	5,873 (24.4)
	<i>Stage II</i>	3,502 (14.9)	3,540 (14.5)	3,447 (14.3)
	<i>Stage III</i>	2,743 (11.7)	2,694 (11.0)	2,639 (11.0)
	<i>Stage IV</i>	11,878 (50.5)	12,326 (50.3)	12,106 (50.3)

eTable 4. Overall 1-Year Mortality, 30-Day Operative Mortality, and 90-Day Operative Mortality by Year Among Patients With Esophageal, Gastric, Primary Liver, and Pancreatic Cancers Diagnosed in 2018 to 2020

		Year		
		2018, N (%)	2019, N (%)	2020, N (%)
Esophagus	Alive at 1-year ^a	5,371 (59.0)	5,464 (57.6)	4,870 (55.4)
	1-year Mortality	3,734 (41.0)	4,015 (42.4)	3,924 (44.6)
	Alive at 30-days ^b	3,219 (97.1)	3,214 (97.5)	2,794 (96.3)
	30-day Mortality	81 (2.4)	69 (2.1)	84 (2.9)
	Unknown	15 (0.5)	13 (0.4)	23 (0.8)
	Alive at 90-days ^b	3,109 (93.8)	3,078 (93.4)	2,665 (91.9)
	90-day Mortality	186 (5.6)	191 (5.8)	181 (6.2)
	Unknown	20 (0.6)	27 (0.8)	55 (1.9)
	Alive at 1-year ^a	4,253 (59.1)	4,329 (58.4)	3,574 (53.9)
	1-year Mortality	2,939 (40.9)	3,081 (41.6)	3,056 (46.1)
	Alive at 30-days ^b	2,996 (97.7)	3,008 (97.4)	2,451 (96.2)
	30-day Mortality	50 (1.6)	49 (1.6)	45 (1.8)
Gastric	Unknown	21 (0.7)	30 (1.0)	52 (2.0)
	Alive at 90-days ^b	2,923 (95.3)	2,932 (95.0)	2,353 (92.3)
	90-day Mortality	106 (3.5)	98 (3.2)	104 (4.1)
	Unknown	38 (1.2)	57 (1.9)	91 (3.6)
	Alive at 1-year ^a	6,946 (56.3)	7,139 (56.3)	5,822 (51.9)
	1-year Mortality	5,391 (43.7)	5,547 (43.7)	5,392 (48.1)
	Alive at 30-days ^b	1,501 (96.6)	1,541 (97.0)	1,394 (97.1)
	30-day Mortality	47 (3.0)	44 (2.8)	18 (1.3)
	Unknown	6 (0.4)	4 (0.3)	23 (1.6)
	Alive at 90-days ^b	1,478 (95.1)	1,508 (94.9)	1,337 (93.2)
	90-day Mortality	68 (4.4)	73 (4.6)	47 (3.3)
	Unknown	8 (0.5)	8 (0.5)	51 (3.5)
Liver	Alive at 1-year ^a	9,888 (42.0)	10,464 (42.7)	9,757 (40.5)
	1-year Mortality	13,641 (58.0)	14,032 (57.3)	14,308 (59.5)
	Alive at 30-days ^b	5,354 (97.7)	5,556 (97.7)	5,269 (96.6)
	30-day Mortality	104 (1.9)	107 (1.9)	113 (2.1)
	Unknown	22 (0.4)	22 (0.4)	73 (1.3)
Pancreas	Alive at 1-year ^a	5,371 (59.0)	5,464 (57.6)	4,870 (55.4)
	1-year Mortality	3,734 (41.0)	4,015 (42.4)	3,924 (44.6)
	Alive at 30-days ^b	3,219 (97.1)	3,214 (97.5)	2,794 (96.3)
	30-day Mortality	81 (2.4)	69 (2.1)	84 (2.9)
	Unknown	15 (0.5)	13 (0.4)	23 (0.8)
	Alive at 90-days ^b	3,109 (93.8)	3,078 (93.4)	2,665 (91.9)
	90-day Mortality	186 (5.6)	191 (5.8)	181 (6.2)
	Unknown	20 (0.6)	27 (0.8)	55 (1.9)
	Alive at 1-year ^a	4,253 (59.1)	4,329 (58.4)	3,574 (53.9)
	1-year Mortality	2,939 (40.9)	3,081 (41.6)	3,056 (46.1)
	Alive at 30-days ^b	2,996 (97.7)	3,008 (97.4)	2,451 (96.2)
	30-day Mortality	50 (1.6)	49 (1.6)	45 (1.8)
	Unknown	21 (0.7)	30 (1.0)	52 (2.0)

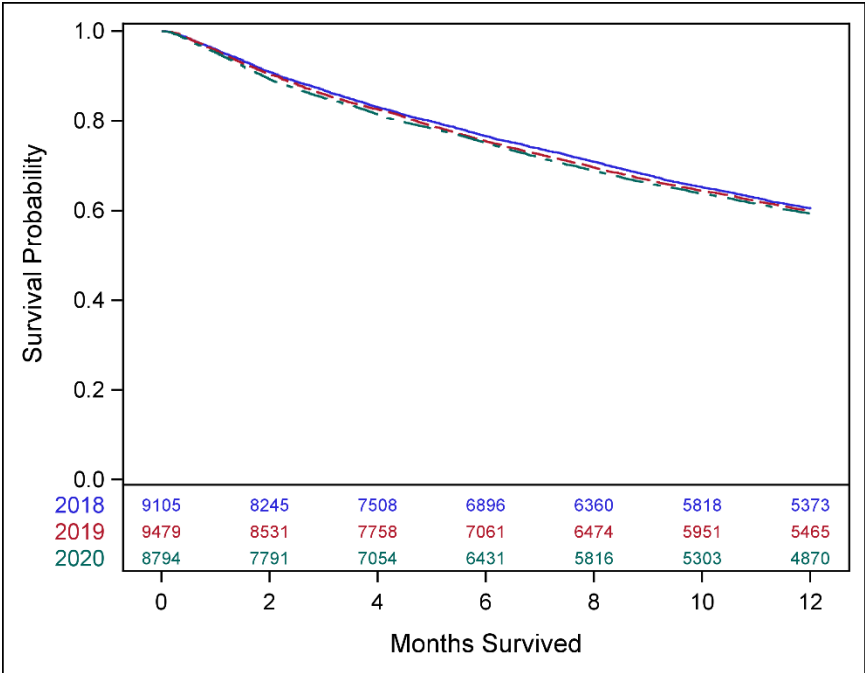
	<i>Alive at 90-days^b</i>	5,220 (95.3)	5,379 (94.6)	5,074 (93.0)
	<i>90-day Mortality</i>	221 (4.0)	245 (4.3)	236 (4.3)
	<i>Unknown</i>	39 (0.7)	61 (1.1)	145 (2.7)

^a Includes the entire patient cohort of 156,937 patients diagnosed with high-risk gastrointestinal cancers (52,163 in 2018, 54,071 in 2019, and 50,703 in 2020).

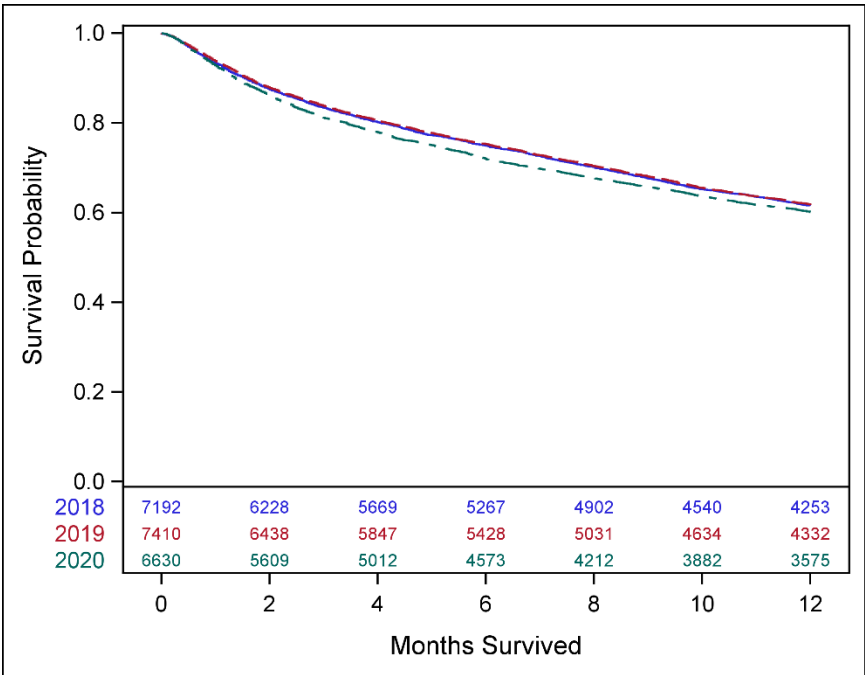
^b Represents short-term operative mortality only and thus limited to only patients who underwent curative-intent surgical resection, 39,412 patients (13,416 in 2018, 13,657 in 2019, and 12,339 in 2020).

eFigure 3. One-Year Survival Among Patients With Esophageal, Gastric, Primary Liver, and Pancreatic Cancers Diagnosed in 2018 to 2020

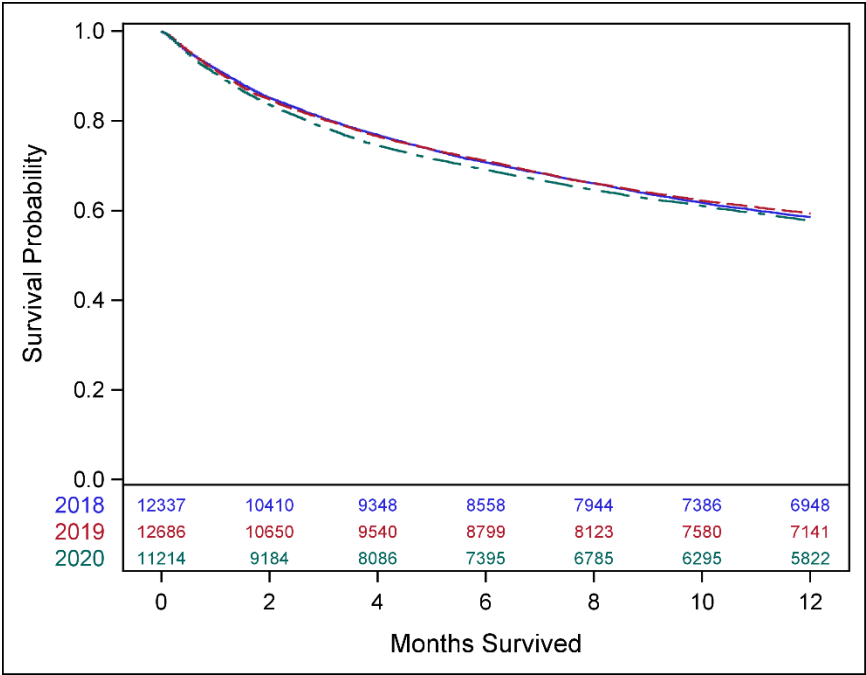
a) Esophageal cancer



b) Gastric cancer



c) Primary liver cancer



d) Pancreatic cancer

