

Tomoki Sempokuya, MD, Fadja A. Rochling, MB BCh, MBA
University of Nebraska Medical Center, Omaha, NE

Background

Previous studies have suggested the presence of racial disparity in gastric cancer survival. However, there is a paucity of data evaluating the presence of disparities based on household income in gastric cancer survival. This study aimed to evaluate the survival of gastric cancer by household income in the United States.

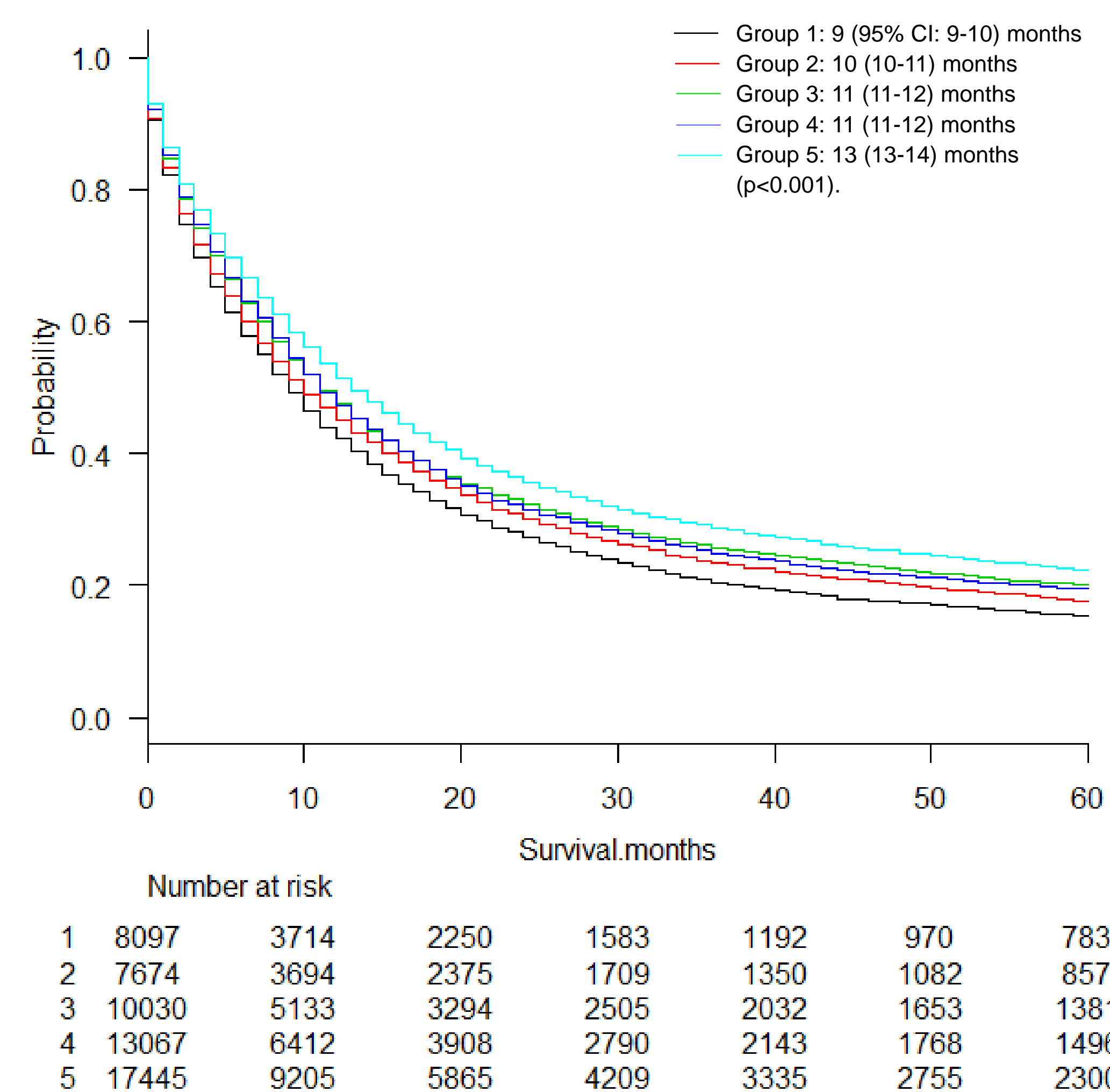
Methods

This is a SEER database-based study to identify patients with gastric cancer diagnosed between 2007 and 2018 using ICD-O-3 site codes C16.0-16.9 and histology codes 8140/3, 8211/3, 8260/3, 8480/3, and 8490/3. We then divided patients into five groups: Group 1: <\$50,000, 2: \$50,000-59,999, 3: \$60,000-64,999, 4: \$65,000-74,999, and 5: ≥\$75,000. Categorical and continuous variables were analyzed with the Chi-Square test and the Mann-Whitney U test. The Kaplan-Meier survival curve compared survival. A multivariate analysis was done with the Cox proportional hazard regression model.

Results

Total of 56,313 patients (Group 1-5: 8,097, 7,674, 10,030, 13,067, 17,445, respectively). Median age: 67 years, Male: 36,944 (65.6%). **White and API:** More patients are classified as groups 4 and 5. **Hispanic:** More patients are classified as groups 3, 4, and 5. **Black:** More patients are classified as group 1. **AIAN:** More patients are classified as groups 1, 2, and 5.

Group 5: More likely to undergo surgical treatment. Overall median survival was 11 months.



	Group	HR	95%CI	p value
Income group	\$50,000-59,999	0.95	0.9128-0.9789	0.002
	\$60,000-64,999	0.88	0.8513-0.9105	<0.001
	\$65,000-74,999	0.89	0.8594-0.9159	<0.001
	≥\$75000	0.83	0.8052-0.8564	<0.001
Age group	50-59	1.05	1.008-1.083	0.02
	60-69	1.15	1.114-1.192	<0.001
	70-79	1.44	1.389-1.486	<0.001
	80+	1.81	1.745-1.886	<0.001
Sex	Male	1.06	1.04-1.084	<0.001
Race	Black	1.07	1.038-1.103	<0.001
	Hispanic	0.97	0.9426-0.9955	0.02
	API	0.84	0.8171-0.8721	<0.001
	AIAN	1.20	1.086-1.32	<0.001
Stage	II	1.40	1.347-1.465	<0.001
	III	1.92	1.849-2	<0.001
	IV	2.74	2.644-2.835	<0.001
	Unknown	1.63	1.572-1.693	<0.001
Surgery	Local tumor destruction	1.86	1.287-2.69	<0.001
	Local tumor excision	1.05	0.8345-1.325	0.67
	LTE+LTD	1.01	0.7046-1.457	0.94
	Partial gastrectomy	0.95	0.7627-1.177	0.63
	Near-total/total gastrectomy	1.04	0.8381-1.302	0.70
	Gastrectomy + resection of other organ	1.13	0.9058-1.398	0.29
	Surgery, NOS	1.62	1.257-2.079	<0.001
	None	2.79	2.244-3.457	<0.001
Unknown	2.34	1.823-2.99	<0.001	
Cancer type	Mucinous adenocarcinoma	1.02	0.9529-1.094	0.55
	Papillary adenocarcinoma	0.90	0.7415-1.096	0.30
	Tubular adenocarcinoma	0.82	0.7281-0.931	0.002
	Signet ring cell carcinoma	1.15	1.119-1.172	<0.001
Location	Body	0.99	0.9518-1.032	0.67
	Cardia	0.86	0.8302-0.8845	<0.001
	Fundus	1.00	0.9422-1.054	0.90
	Greater curvature	1.02	0.9575-1.075	0.62
	Lesser curvature	0.89	0.8477-0.927	<0.001
	Pylorus	1.08	1.009-1.15	0.03
	Overlapping lesion	1.13	1.081-1.177	<0.001
NOS	1.18	1.141-1.222	<0.001	

Conclusions

This study showed a significant difference in survival based on household income. Black and AIAN had poorer survival regardless of household income than other races. Further studies are needed to elucidate the solutions to decrease survival differences by household income.