

## Introduction

Under-enrollment in clinical trials significantly limits valid analyses of clinical interventions and generalizability of findings. It can also result in premature study termination, with estimates of 22% and 50% of clinical trials being terminated due to poor accrual. Currently, there are limited reports addressing socioeconomic factors influencing clinical trial enrollment in neuro-oncologic. The goal of this study was to determine if patient demographics such as insurance status, race/ethnicity, gender, and age impacts clinical trial enrollment.

## Methods

A search within the UCSF Tumor Board Registry identified 402 adult patients discussed over an 18-month period. This cohort was analyzed to determine the rate of clinical trial recommendation and enrollment at initial diagnosis and any time of recurrence based on clinical reports available through the electronic medical record.

## Results

92 patients (34.7%) were recommended enrollment in a clinical trial by the tumor board at the time of initial diagnosis with 51.1% of these patients actually proceeding with enrollment. 104 patients (36%) were recommended enrollment in a clinical trial by the tumor board at any point after recurrence with 62.5% actually proceeding with a clinical trial. Patient and disease factors associated with clinical trial recommendation included WHO grade, median household income, and the percentage below poverty of the county where the patient lived. However, there were no consistent factors found that were associated with actually proceeding with a clinical trial.

**Table 1. Demographics**

Mean Age	50.8 +/- 14.9
Sex	
M	252 (60.1%)
F	167 (39.9%)
WHO Grade	
I	12 (2.9%)
II	123 (29.4%)
III	74 (17.7%)
IV	209 (50%)
New Diagnosis:	
Clinical Trial Recommended	92 (34.7%)
Proceeded with Clinical Trial	47 (51.1%)
At Recurrence:	
Clinical Trial Recommended	104 (36%)
Proceeded with Clinical Trial	65 (62.5%)

**Table 2. Tumor board recommendations at initial diagnosis**

	Recommended Clinical Trial			Proceeded with Clinical Trial		
	Yes	No	p-value	Yes	No	p-value
Age	50.8	51.5	0.71	52.7	48.8	0.19
Sex (M)	58 (63.0%)	109 (63.0%)	0.99	33 (70.2%)	25 (55.6%)	0.14
WHO Grade			0.0004			0.35
I	0 (0%)	6 (3.5%)		0 (0%)	0 (0%)	
II	31 (33.7%)	49 (28.5%)		14 (29.8%)	17 (37.8%)	
III	4 (4.4%)	32 (18.6%)		1 (2.1%)	3 (6.7%)	
IV	57 (61.9%)	85 (49.4%)		32 (68.1%)	25 (55.6%)	
Instate	75 (81.5%)	141 (81.5%)	0.91	39 (83.0%)	36 (80%)	0.48
Out-of-State	16 (17.4%)	29 (16.8%)		8 (17.0%)	8 (17.8%)	
International	1 (1.1%)	3 (1.7%)		0 (0%)	1 (2.2%)	
Distance from UCSF (miles)	95.9 +/- 11.0	84.2 +/- 8.0	0.39	87.2 +/- 18.0	105.4 +/- 18.8	0.49
Insurance Type			0.73			0.32
Private	66 (72.5%)	116 (68.6%)		31 (66.0%)	35 (79.6%)	
Public	23 (25.3%)	47 (27.8%)		15 (31.9%)	8 (18.2%)	
None	2 (2.2%)	6 (3.6%)		1 (2.1%)	1 (2.2%)	
Median Household Income	\$88,049.60 +/- 3560.00	\$78,200.30 +/- 2621.30	0.02	\$88,569.20 +/- 5633.10	\$87,506.50 +/- 5759.70	0.90
% Below Poverty	10.6%	12.4%	0.05	10.4%	10.9%	0.77

**Table 3. Tumor board recommendations at recurrence**

	Recommended Clinical Trial			Proceeded with Clinical Trial		
	Yes	No	p-value	Yes	No	p-value
Age	51.7	49.5	0.19	52.9	49.7	0.23
Sex (M)	67 (64.4%)	106 (57.3%)	0.23	42 (64.6%)	25 (64.1%)	0.96
WHO Grade			0.01			0.07
I	0 (0%)	9 (4.9%)		0 (0%)	0 (0%)	
II	29 (27.9%)	52 (28.1%)		13 (20%)	16 (41.0%)	
III	15 (14.4%)	38 (20.5%)		10 (15.4%)	5 (12.8%)	
IV	60 (57.7%)	86 (46.5%)		47 (64.6%)	18 (46.2%)	
Instate	83 (79.8%)	140 (75.7%)	0.72	55 (84.6%)	28 (71.8%)	0.07
Out-of-State	19 (18.3%)	41 (22.2%)		10 (15.4%)	9 (23.1%)	
International	2 (1.9%)	4 (2.1%)		0 (0%)	2 (5.1%)	
Distance from UCSF (miles)	98.4 +/- 12.6	97.7 +/- 9.7	0.97	88.8 +/- 18.2	117.3 +/- 25.4	0.36
Insurance Type			0.84			0.77
Private	66 (64.7%)	122 (67.8%)		43 (66.2%)	23 (62.2%)	
Public	30 (29.4%)	47 (26.1%)		19 (29.2%)	11 (29.7%)	
None	6 (5.9%)	11 (6.1%)		3 (4.6%)	3 (8.1%)	
Median Household Income	\$84,695.20 +/- 3053.6	\$77,680.50 +/- 2319.80	0.06	\$87,191.70 +/- 3872.70	\$80376.90 +/- 5093.30	0.29
% Below Poverty	10.3%	11.9%	0.046	10.2%	10.5%	0.81

## Conclusions

These results suggest that in neuro-oncology, tumor board recommendation for clinical trial enrollment may be influenced by both patient and oncological factors. Such results provide insight into barriers to patient enrollment in appropriate trials.

## Learning Objectives

1. Describe the rate of clinical trial recommendation and actual enrollment for patients discussed at an academic center tumor board
2. Highlight patient demographic factors associated with clinical trial recommendation
3. Highlight patient demographic factors associated with actual clinical trial enrollment