

Introduction and Objectives

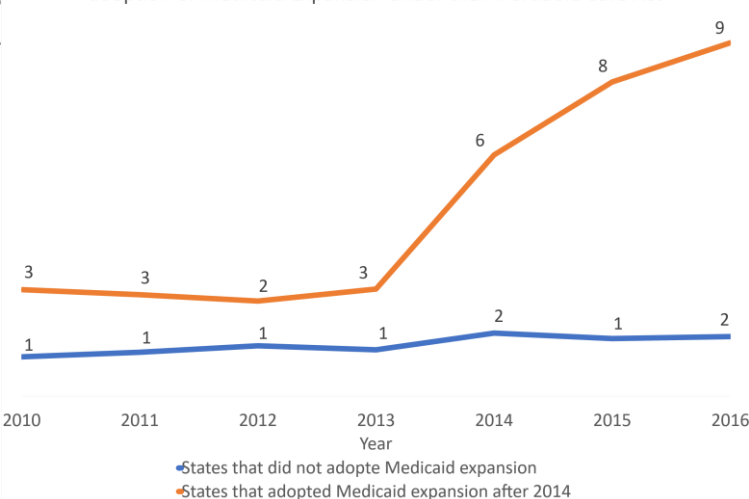
Medicaid and Medicare were implemented in 1965 to provide health insurance coverage for elderly, poor, and disabled individuals. Since their inception, Medicare and Medicaid have evolved over time, and the Affordable Care Act (ACA) resulted in their most significant transformation to date. The ACA was signed into law in March 2010 by President Barack Obama, and one of its main tenets was to expand state Medicaid coverage. Prior to the ACA, almost 17% of adults in the United States under 65 years old did not have health insurance, but this number has since risen to approximately 20%. Currently, over 69 million people are insured, and Medicaid is the largest source of health insurance coverage in the United States. Medicaid is a shared program between federal and state governments, but not all states opted to expand their coverage.

Lack of health insurance has been well documented as a barrier to preventative screening and adequate treatment for cancer patients. State expansion of Medicaid is known to decrease the number of uninsured cancer patients, increase uptake of recommended cancer screening tests, and result in disease presentation at an earlier stage. In the present study, we analyzed the impact of Medicaid expansion on survival in patients who were diagnosed with either HNSCC, differentiated thyroid cancer (DTC), or head and neck cutaneous melanoma (HNCM).

Descriptive statistics of the study population.
N=16,889

	n(%)
Age, yr.	
18 - <25	653(3.87)
25 - < 45	4937(29.23)
45 - < 65	11299(66.9)
Sex	
Male	8167(48.36)
Female	8722(51.64)
Race	
White	8846(52.38)
Black	2540(15.04)
Hispanic	3881(22.98)
American Indian/Alaska Native	229(1.36)
Asian/Pacific Islander	1282(7.59)
Other/Unknown	111(0.66)
Insurance type	
Medicaid	12982(76.87)
Uninsured	3907(23.13)
Site and type of cancer	
Oral cavity SCC	3017(17.86)
Pharynx SCC	2800(16.58)
Larynx SCC	2514(14.89)
Thyroid DTC	8020(47.49)
Cutaneous melanoma	538(3.19)
Stage	
I	7509(44.46)
II	1301(7.7)
III	2274(13.46)
IV	5805(34.37)

Figure 1. Number of Medicaid patients for every 1 uninsured patient with head and malignancies comparing States based on adoption of Medicaid expansion under the Affordable Care Act



Methods

The study design is a retrospective cohort analysis using the Surveillance, Epidemiology, and End Results (SEER) database of 18 cancer registries, 2010–2016. The SEER program collects data from regional cancer registries that cover 26% of the United States population. SEER data is publicly available and de-identified, it does not meet the criteria of human subject research and is exempt from approval by the Institutional Review Board.

Inclusion criteria included patients who were 18–65 years old, with Medicaid insurance or uninsured, and with a diagnosis of primary head and neck malignancy.

Demographic and clinical characteristics of patients with head and neck malignancies who likely benefited from Medicaid expansion.

	% before Medicaid expansion	% after Medicaid expansion	aOR	95%CI	P
Age, yr.					
18 - <25	4.30	4.15	Reference		
25 - < 45	29.08	30.69	1.13	0.94, 1.37	0.20
45 - < 65	66.62	65.16	1.15	0.96, 1.39	0.14
Sex					
Male	48.57	44.35	Reference		
Female	51.43	55.65	1.16	1.07, 1.26	<0.001
Race					
White	51.32	52.01	1.59	1.41, 1.79	<0.001
Black	15.35	9.86	Reference		
Hispanic	22.34	26.83	1.84	1.61, 2.09	<0.001
American Indian/Alaska Native			1.14	0.84, 1.53	0.40
Native	2.05	1.51			
Asian/Pacific Islander	8.37	9.07	1.66	1.41, 1.96	<0.001

Overall survival of patients with head and neck malignancies in relation to the States and Medicaid expansion status.

Population	Study group ^{ab}	Period of cancer diagnosis	aHR ^c	95%CI	P
Head and neck squamous cell carcinoma	Group 1	Before expansion	Reference		
		After expansion		0.82	0.74, 0.91
	Group 2	Before 2014		0.999,	
		After 2014		1.16 1.35	0.05
Differential thyroid carcinoma	Group 1	Before expansion	Reference		
		After expansion		0.99	0.51, 1.94
	Group 2	Before 2014		1.38	0.47, 4.08
		After 2014		0.60	0.08, 4.84
Head and Neck cutaneous melanoma	Group 1	Before expansion	Reference		
		After expansion		0.54	0.26, 1.13
	Group 2	Before 2014		2.25	1.07, 4.74
		After 2014		1.55	0.31, 7.71

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval.

^aGroup 1 represents States that adopted expansion during the study period further divided into patients diagnosed before and after the date of Medicaid expansion reported in Table 1.

^bGroup 2 represents States that did not adopt expansion Medicaid during the study period, to provide a suitable comparison group to States that adopted the expansion in and after 2014, this group was further divided into patients diagnosed before and after 2014.

Discussion

In this nationally represented study, we examined the impact of expanded Medicaid coverage on HNSCC, DTC, and HNCM patients.

Survival Outcomes

In the present study, in states that expanded Medicaid, there was a significant improvement in disease-specific survival among HNSCC patients. Furthermore, the survival analysis demonstrated that the improvement in survival was only identifiable after Medicaid expansion, for patients diagnosed before Medicaid expansion compared to patients diagnosed in the same period there was no significant improvement in survival. Reasons for improved survival are likely multifactorial, as lack of insurance affects prevention, diagnosis, continuity of care, medical and surgical management, and stage of disease at initial presentation. This data clearly demonstrates that insurance contributes to improved outcomes for HNSCC patients who may have previously been ineligible for Medicaid prior to implementation of the ACA.

We found that HNCM patients who resided in states that adopted Medicaid expansion tended to have an improvement in survival; however, this did not reach statistical significance. Nevertheless, these findings underscore the effect insurance can provide on improving survival outcomes in the HNCM population.

With respect to DTC, survival outcomes were not significantly different when examining the role of Medicaid expansion among states. Survival rates for DTC are generally excellent, and the lack of difference seen in the study is could possibly be attributed of a limited follow-up period.

Demographic and Racial Disparities

Even after the expansion of Medicaid by individual states, significant social and racial barriers still persist. In the present study, we found that African Americans were least likely to be represented in the study sample after Medicaid expansion compared to whites, Asians, and Hispanics. Along with other known socioeconomic and health disparities among minorities, the lack of sufficient insurance coverage for African Americans with Medicaid further complicates these obstacles. As demonstrated, there still exist significant barriers to health equity among African Americans which need to be addressed.