**Supplemental Table 1.** ICD-O-3 site codes included in this study. The list of ICD-O-3 codes includes head and neck cancers of the oropharynx (C01.9 - 10.9), nasopharynx (C11.0 - 11.9), hypopharynx (C12.9 - 13.9), or other pharynx (C14.0 – 14.8).

|  |  |
| --- | --- |
| ICD-O-3 site code | Site |
| C01.9 | Base of tongue, NOS |
| C02.4 | Lingual tonsil |
| C05.1 | Soft palate, NOS |
| C05.2 | Uvula |
| C09.0 | Tonsillar fossa |
| C09.1 | Tonsillar pillar |
| C09.8 | Overlapping lesion of tonsil |
| C09.9 | Tonsil, NOS |
| C10.0 | Vallecula |
| C10.2 | Lateral wall of oropharynx |
| C10.3 | Posterior wall of oropharynx |
| C10.4 | Branchial cleft |
| C10.8 | Overlapping lesion of oropharynx |
| C10.9 | Oropharynx, NOS |
| C11.0 | Superior wall of nasopharynx |
| C11.1 | Posterior wall of nasopharynx |
| C11.2 | Lateral wall of nasopharynx |
| C11.3 | Anterior wall of nasopharynx |
| C11.8 | Overlapping lesion of nasopharynx |
| C11.9 | Nasopharynx, NOS |
| C12.9 | Pyriform sinus |
| C13.0 | Postcricoid region |
| C13.1 | Aryepiglottic fold, hypopharyngeal |
| C13.2 | Posterior wall of hypopharynx |
| C13.8 | Overlapping lesion of hypopharynx |
| C13.9 | Hypopharynx, NOS |
| C14.0 | Pharynx, NOS |
| C14.8 | Overlapping lesion of lip, oral cavity & pharynx |

**Supplemental Table 2.** Multivariable odds ratios\* for odds of HPV-positive oropharyngeal squamous cell carcinoma (OPSCC) and non-OPSCC of the head and neck by disease subsite (oropharynx versus non-oropharynx [nasopharynx, hypopharynx, or other pharynx]) and tumor and nodal stage among US patients age 25 and older with M0 disease (N= 4,476). \*Adjusted for all variables listed in Table 1.

|  |  |  |
| --- | --- | --- |
| **Characteristic a** | **OPSCC** (N=3,917) | **Non-OPSCC** (N=559) |
| AOR (95% CI) | P | AOR (95% CI) | P |
| **Tumor Stage, N (Percent)a** |  |
|  | T1  | 1.0 (Referent) | 1.0 (Referent) |
|  | T2 | 1.10 (0.89-1.36) | 0.36 | 1.56 (0.79-2.05) | 0.20 |
|  | T3 | 0.71 (0.55-0.90) | 0.004 | 1.78 (0.88-3.57) | 0.11 |
|  | T4 | 0.57 (0.45-0.74) | <0.001 | 1.84 (0.90-3.76) | 0.096 |
|  | Unknown T | 0.80 (0.59-1.07) | 0.13 | 1.56 (0.49-5.03) | 0.45 |
| **Nodal Stage, N (Percent)b** |  |
|  | N0 | 1.0 (Referent) | 1.0 (Referent) |
|  | N1 | 1.50 (1.17-1.92) | 0.001 | 0.72 (0.38-1.36) | 0.31 |
|  | N2a | 2.23 (1.63-3.05) | <0.001 | 1.13 (0.33-3.81) | 0.84 |
|  | N2b | 1.92 (1.53-2.39) | <0.001 | 0.88 (0.44-1.79) | 0.73 |
|  | N2c | 1.93 (1.47-2.54) | <0.001 | 0.42 (0.16-1.06) | 0.066 |
|  | N2 NOS | 1.47 (0.73-2.95) | 0.28 | 0.72 (0.35-1.50) | 0.38 |
|  | N3 | 1.79 (1.23-2.61) | 0.002 | 0.92 (0.36-2.31) | 0.86 |
|  | Unknown N | 1.38 (0.60-3.20) | 0.45 | 1.44 (0.46-4.52) | 0.54 |

Abbreviations: AOR, Adjusted Odds Ratio; CI, confidence interval; HNSCC, Head and Neck Squamous Cell Carcinoma; HPV, Human Papillomavirus; N/A, not applicable; OPSCC, Oropharyngeal Squamous Cell Carcinoma

a Pinteraction <0.001 for disease subsite (OPSCC versus non-OPSCC) \* T-stage (smaller T [T1-2] versus higher T [T3-4]) interaction.

b Pinteraction =0.002 for disease subsite (OPSCC versus non-OPSCC) \* N -stage (smaller N [N0-N1] versus higher N [N2-N3]) interaction.