

Individual Head and Neck Screening: Initiating a Dialogue About Best Approach

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Introdution/Background

Head and neck cancer (HNC) accounts for 4% of all cancers in the United States, and this year an estimated 66,630 people will develop HNC.¹ There is a nationwide initiative to offer free screening, as early diagnosis is key to successful treatment. Prior studies have lacked outcome data and shown low detection rates among the general population and the need for targeted screening of high-risk groups.^{2,3,4,5} This retrospective descriptive study aims to investigate the true benefits of free individual head and neck cancer screening in a high-risk urban population as well as its associated risks.

Methods

Free HNC screening was performed from 2014-2019 at nine clinics in some of the densest poverty areas in Chicago. Questionnaires were administered followed by an oral, head, and neck physical exam. The highest yield screening year was 2019 in which screening was performed over five days. Screening locations were determined based on zip code data outlining high risk areas as provided by an institutional head and neck cancer database. Completed screening questionnaires were entered into a database and descriptive statistics were generated. Data on outcomes was tracked retrospectively through chart review.

Results

- 410 participants were screened from age 17 to 87 with an average age of 47 [Table 1]. 100 (24.6%) reported current tobacco use including 86 (21.2%) who smoke cigarettes. 137 (37%) reported former tobacco use including 126 (34.1%) who formerly smoked cigarettes.
- 2019 was the highest yield screening year (n=187). 98 (52.4%) reported current H&N symptoms. 134 (77.9%) did not know the symptoms listed could be early signs of head and neck cancer. 120 (73.2%) felt that this program increased their knowledge and awareness of head and neck cancer.

Results

•In 2019, 44 (23.5%) had an abnormal physical exam finding [Table 2]. 32 (17.2%) were referred for dental follow-up. Twenty-nine (15.5%) were recommended for further head and neck evaluation.

•7 (3.7%) had immediate consultation placed for suspected neoplasm including one skin lesion, three thyroid masses, and three neck masses. 18 (9.6%) were referred to UIC for ENT follow up and only 4 (22%) of those who were referred did indeed follow up. Zero participants were ultimately found to have H&N cancer.

•In 2019, only 13 (7.6%) respondents reported receiving the HPV vaccine while 158 (92.4%) had not. 126 (71.2%) did not know that HPV is linked to cervical and H&N cancer.

•In 2019, 15 physicians, 2 NPs, 5 residents, and 8 medical students participated, each for a 1/2 clinical day. 5 medical assistants who were on site each day to provide appointments. The cost for staff alone for five days of screening was \$6705.75. Marketing materials and supplies were \$1025 and \$700, respectively, bringing the total cost for screening in 2019 to \$8430.75

Year	2014 (n=88)	2015 (n=112)	2017 (n=23)	2019 (n=187)	All Years (n=410)
Age					
<18	2 (2)	0 (0)	0 (0)	0 (0)	2 (0)
18-24	8 (9)	10 (9)	0 (0)	8 (4)	26 (6)
25-34	17 (20)	16 (15)	6 (26)	37 (20)	74 (18)
35-44	12 (14)	17 (15)	4 (17)	41 (22)	73 (18)
45-54	19 (22)	29 (26)	9 (39)	28 (15)	85 (21)
55-64	21 (24)	23 (21)	3 (13)	44 (24)	91 (23)
65-74	6 (7)	12 (11)	1 (4)	25 (13)	44 (11)
>75	1 (1)	3 (3)	0 (0)	4 (2)	8 (2)
Gender (%)					
Male	26 (30)	39 (35)	7 (30)	77 (41)	149 (37)
Female	61 (70)	72 (65)	16 (70)	110 (59)	259 (64)
Ethnicity (%)					
Hispanic	24 (27)	18 (16)	7 (30)	61 (33)	110 (27)
Non-Hispanic	8 (9)	5 (4)	1 (4)	59 (32)	73 (18)
Not Provided	56 (64)	89 (79)	15 (65)	67 (36)	227 (55)
Race (%)					
White (Caucasian)	4 (4)	5 (4)	4 (17)	32 (17)	45 (11)
Black (African-American)	53 (60)	83 (74)	10 (43)	82 (44)	228 (56)
Asian	1 (1)	4 (4)	1 (4)	11 (6)	17(4)
Other	1 (1)	2 (2)	0 (0)	13 (7)	16(4)
Not Provided	29 (33)	18 (16)	8 (35)	49 (26)	104 (25)
Current Tobacco Use					
Cigarettes	18 (20)	45 (40)	5 (22)	18 (10)	86 (21)
Chewing	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Snuff	1 (1)	0 (0)	0 (0)	1 (1)	2 (0)
Cigars	0 (0)	2 (2)	3 (13)	6 (3)	11 (3)
Pipes	0 (0)	0 (0)	0 (0)	1 (1)	1 (0)
None	68 (77)	62 (55)	15 (65)	161 (86)	306 (75)
Not Provided	1 (1)	3 (3)	0 (0)	0 (0)	4 (1)
Former Tobacco Use					
Cigarettes	30 (34)	41 (37)	4 (17)	51 (27)	126 (31)
Chewing	0 (0)	0 (0)	1 (4)	0 (0)	1 (0)
Snuff	0 (0)	1 (1)	0 (0)	0 (0)	1 (0)
Cigars	0 (0)	2(2)	2 (9)	5 (3)	9 (2)
Pipes	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
None	57 (65)	39 (35)	12 (52)	125 (67)	233 (57)
Not Provided	1 (1)	29 (26)	4 (17)	6 (3)	40 (10)
Lifetime Alcohol Use (Years)					
0	29 (33)	18 (16)	3 (13)	88 (47)	138 (34)
1-10	10 (11)	11 (10)	4 (17)	33 (18)	58 (14)
11-20	10 (11)	9 (8)	4 (17)	19 (10)	42 (10)
21-30	4 (5)	5 (4)	2 (9)	16 (9)	27 (6)
31+	5 (6)	4 (4)	3 (13)	6 (3)	18(4)
Not Provided	30 (34)	65 (58)	7 (30)	25 (13)	127 (31)

Result	n (%)
Normal Exam	143 (77.5)
Abnormal Exam	44 (23.5)
Skin	5 (12)
Ears	4 (10)
Nose	5 (12)
Oral Cavity	18 (43)
Oropharynx	0 (0)
Larynx	0 (0)
Salivary Glands	2 (5)
Thyroid Glands	5 (12)
Neck	8 (19)

Conclusion

Head and neck cancer screening is an excellent opportunity for patient education regarding tobacco cessation, reduced alcohol consumption, and HPV vaccination, as well as promoting favorable risk-lowering behaviors. It can also be a valuable tool for educating clinicians who are less familiar with head and neck cancer. However, it is not a cost-effective use of physician time, does not increase detection rates even in high-risk segments of the general population, and is not completely without risk especially in the context of COVID-19. Narrowing criteria for screening warrants further investigation, but at the current time there is mixed evidence at best for individual head and neck screening among any high-risk group. Perhaps the focus of head and neck screening should shift to education and health promotion until better techniques for screening are developed.

References

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