

PREVALENCE OF WATERPIPE TOBACCO SMOKING ESTABLISHMENTS NEAR LARGE UNIVERSITIES: UTILITY OF PUBLIC DATA FROM THE YELP PLATFORM

JASON B. COLDITZ, M.ED. LEILA GILES, B.S. BRIAN A. PRIMACK, M.D., PH.D.



CENTER FOR RESEARCH ON MEDIA | TECHNOLOGY | HEALTH

BACKGROUND

- Waterpipe tobacco smoking (WTS) is an emerging trend in the U.S.
- WTS takes place in establishments such as *hookah bars* or *hookah lounges*
- A typical WTS session can expose users to the same toxicants and >100 times the smoke volume as one cigarette
- WTS is often a social activity, perceived by users as fun, cool, or exotic
- College students may be particularly susceptible to WTS uptake



OBJECTIVES

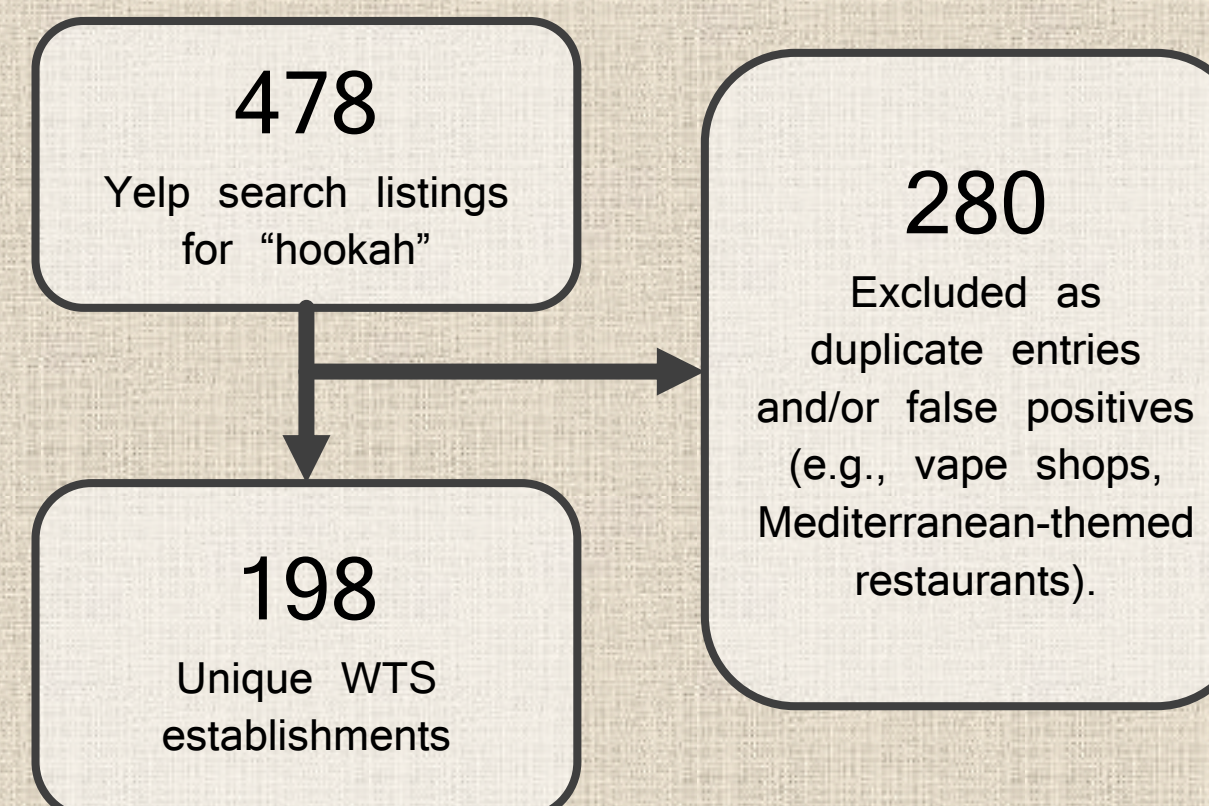
- Develop a systematic approach to quantify the presence of WTS establishments surrounding college campuses
- Examine unique characteristics that typify WTS establishments

METHODS

- We selected the 20 largest brick-and-mortar college campuses in the U.S. based on student enrollment
- We leveraged Yelp's online business directory to collect listings for any establishments matching "hookah" within five miles of campus epicenters
- Two coders reviewed each result as well as website data and made phone calls to verify WTS status and business characteristics

SEARCH RESULTS

- Two campuses shared duplicate results within 5-mile radii. These establishments were counted only once
- The median number of WTS establishments per campus was 6.5 (IQR: 4-10.5)



RESULTS

- Yelp's "hookah" search results and the number of confirmed WTS establishments were highly correlated when rank-ordered across college campuses
(Spearman's $\rho = 0.95$)
- Food and live entertainment were the most prominent characteristics:

WTS establishment characteristics (n = 198)	
Food	83%
Live entertainment	70%
Alcohol	60%
Waterpipe retailer	30%

DISCUSSION

- When ranking campuses, Yelp's basic search result counts reflected rankings of confirmed WTS establishments
- Confirmed WTS establishments provided additional goods and services which may draw clientele into a smoking environment
- Future research should examine a larger and more diverse sample of colleges as well as alternate search strategies