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ARTICLE



An assessment of United States dermatology practices during the COVID-19 outbreak

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ABSTRACT

Objectives: The COVID-19 outbreak is a serious threat to public health and social distancing on the part of individuals can help contain the epidemic. It is unknown if dermatologists are assisting with the public health officials' recommendations for social distancing by closing their practice or limiting their practice to the treatment of emergency conditions. This study examines the activity level of dermatology practices during the United States COVID-19 outbreak.

Methods: We performed scripted phone calls to 60 dermatology practices in six different counties in the United States during the COVID-19 outbreak. We assessed if practices are open and if they are serving patients with urgent and non-urgent conditions.

Results: Of the 60 dermatologists selected for the study, 55 were successfully contacted (92% contact rate). Of these practices, 29 (53%) were open, 17 (31%) were only seeing urgent patients and 9 (16%) were closed. New York, New York had 2 (20%) open offices which was the lowest proportion of any county ($p = .04$). Counties with higher prevalence had fewer open offices ($p < .01$, $R^2 = .7$).

Conclusions: Many practices have restricted their level of operation especially in higher areas of COVID-19 prevalence, likely to help facilitate social distancing.

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Public health; spread; epidemic; pandemic

Introduction

The Coronavirus Disease 2019 (COVID-19) outbreak is a serious threat to public health. The course of the outbreak in China has demonstrated that social distancing, quarantine and isolation of infected populations can contain the spread of the infection (1). Korea, Taiwan and Singapore have also been effective in containing the outbreak using similar tactics (2,3). It is unknown whether western countries will implement similar stringent measures. Individual behavior rather than government action may, therefore, be the most important variable in western nations' responses to the virus (1).

Social distancing is a measure that can be taken by individuals to help reduce the severity of an epidemic (1,4). The first line of social distancing includes closure of non-essential workplaces (2). However, individual employers may be reluctant to shoulder the economic burdens inherent to social distancing which may limit its effectiveness as a control measure.

In the setting of a rapidly spreading outbreak in the United States (US), it is unknown if dermatologists are assisting with the public health officials' recommendations for social distancing by closing their practice or limiting their practice to the treatment of emergency conditions. We examined the degree to which dermatology practices were open during the COVID-19 outbreak in the US.

Methods

A study population of dermatologists was randomly selected from the American Academy of Dermatology member list which

was searched for all members in each of six counties in the United States (5). All dermatologic subspecialists were excluded from the study.

Practice type was determined by searching the practice website to see if it was connected to a parent organization. A further search for dermatology practice acquisitions was done using CB Insights, a financial database, and by using publicly available data on Crunchbase (6,7). A practice was considered to have private equity investment if it had been acquired by a DMG that had at least one PE investment or if it had a direct PE investment.

One of the authors placed phone calls to the number listed for each dermatologist. An office was considered closed if there was no answer to the call or a voice message was played. If the number was disconnected or unreachable, the practice was removed from the study. If the call was answered, one of two randomly assigned scripts was used. The first script involved a patient concerned about an enlarging mole, a relatively emergent condition as it could represent cancer. The second script involved a patient interested in a botulinum toxin injection, a non-emergent situation.

When speaking to the receptionist, the caller asked if the practice is currently operational, if an appointment was available and when the next available appointment would be. All practices were called on the morning of March 23, 2020. Those that answered and were accepting patients were called again on the afternoon of the same day with the other script. Any appointments offered were declined. This method and both scripts were derived from the methods of another study (8,9).

The prevalence of COVID-19 in each county was acquired from each state website. Wait times were calculated from the number of days from the date of the call until the date of the offered appointment. The institutional review board at the University of Cincinnati exempted the study from further oversight and deemed it non-human subjects research.

The results were analyzed in Microsoft Excel version 16.31. Chi-square tests were used to compare the of number of open practices and number of practices accepting patients between regions. Two-sample *t*-tests were used when comparing mean wait-times.

Results

55 total physicians' (28 male and 27 female) offices were contacted. 5 (91% contact rate) were unable to be reached and were excluded. 29 (53%) practices were operating without restrictions, 17 (31%) practices were only seeing patients with urgent medical needs and 9 (16%) practices were closed (Table 1). 42 (76%) practices were accepting new patients.

New York, New York had the highest prevalence of COVID-19 and 2 (20%) open offices, the lowest proportion of all counties which was significantly different ($p = .04$). Suffolk County, Massachusetts was the only other county with a lower number of practices open at 3 (30%) ($p = .03$). Maricopa County, Arizona and Greenville county, South Carolina had the highest proportion of open offices at 100% each (Table 1). Counties with a higher COVID-19 prevalence tended to have a lower number of open offices ($p < .01$, $R^2 = 0.7$) (Figure 1).

Academic practices were the most likely to only see urgent patients at 9 (64%) ($p < .01$). Private practices owned by physicians had the highest proportion of completely open practices at 15 (75%) however this was not significant ($p = .35$). Private practices owned by physicians and those financed by PE had the highest number of closures to all patients at 5 (25%) ($p < .01$) and 3 (20%) ($p = .01$) respectively.

The average wait time for a botulinum toxin injection and enlarging mole was 56 days and 54 days respectively and there was not a significant difference ($p = .9$). There was a small but statistically significant increase in wait times in areas where more practices are open for both the mole ($p < .01$, $R^2 = 0.08$) and botulinum toxin ($p < .01$, $R^2 = 0.13$) scripts. Two practices offered same day appointments in response to the enlarging

mole script. Five other practices offered an appointment in the same week for both scripts.

Discussion

The higher number of practices that were open only to urgent patients in Suffolk County may be explained by the higher number of academic centers surveys in the area. The high number of closed PE and physician owned practices may be explained by the high concentration of these practice types in New York, which had by far the highest number of COVID-19 prevalence in the study (Table 1).

It appears that wait times were significantly longer and acceptance rates lower in our study than what has been previously been described (8,9). A contributing factor could have been an unwillingness by providers to book visits in the near future due to the potential for closure. These discrepancies could also be due to differences in study design between authors. The shorter wait time in areas where a lower proportion of practices were open may have been due to a higher cancellation rate in these areas. This phenomenon may be explained by the fact that these areas tended to have a higher prevalence of patients with COVID-19. The ability of practices to offer same week appointments may also be due to the same reason.

New York was the only state to have a stay at home order prior to March 23, 2020 (10). All six states had orders to restrict non-essential employees from in-person work that were issued on or before March 23, 2020. Employees in health care clinics

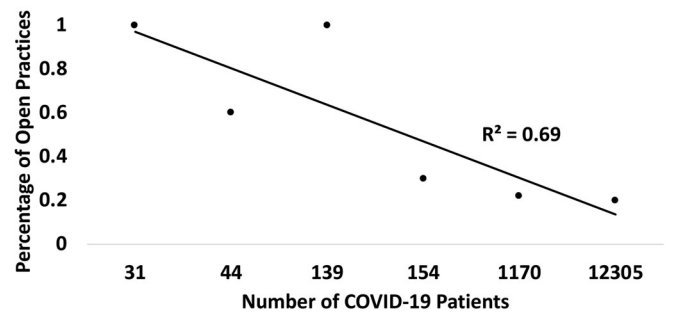


Figure 1. Number of COVID-19 patients vs proportion of open practices in each county on March 23 2020, with linear regression line and R^2 value.

Table 1. Practice status by County and Practice Type.

Location (COVID-19 patients on 3/23/20)	Practice type	Total	Open to all patients	Open (urgent visits only)	Closed to all patients	Accepting patients	Practices offering wait time < 1 week
New York, New York (12, 305)	All practice types	10	2 (20%)	1 (10%)	7 (70%)	5 (50%)	1 (10%)
King County, Washington (1,170)	All practice types	9	2 (22%)	5 (56%)	2 (22%)	7 (78%)	1 (11%)
Suffolk County, MA (154)	All practice types	10	3 (30%)	7 (70%)	0	5 (50%)	0
Maricopa County, Arizona (139)	All practice types	8	8 (100%)	0	0	8 (100%)	2 (25%)
Franklin, Ohio (44)	All practice types	10	6 (60%)	4 (40%)	0	9 (90%)	1 (10%)
Greenville, South Carolina (31)	All practice types	8	8 (100%)	0	0	8 (100%)	2 (25%)
All counties	Private-PE	15	9 (67%)	2 (13%)	3 (20%)	12 (80%)	1 (6.7%)
All counties	Private-Physician Owned	20	15 (75%)	2 (10%)	5 (25%)	14 (70%)	6 (30%)
All counties	Academic	14	4 (29%)	9 (64%)	1 (7.1%)	11 (64%)	0
All counties	For-profit Health System	3	1 (33%)	1 (33%)	0	2 (66%)	0
All counties	Nonprofit Health System	3	0	3 (100%)	0	3 (100%)	0
All counties (13,574)	All practice types	55	29 (53%)	17 (31%)	9 (16%)	42 (76%)	7 (13%)

and hospitals were classified to be essential personal and therefore not subject to this rule in all states (10–15).

Directions specific to dermatologists were not provided by any state and therefore provider discretion may have been the deciding factor in the level of operation of the clinic. Many practices still restricted their level of operation despite the lack of explicit direction to do so. This was more common in areas of higher COVID-19 prevalence and was likely being done to help facilitate social distancing.

Disclosure statement

Dr. Housholder is a sub-investigator for Leo Pharma, Acetelion and US World Meds. Dr. Fleischer is a consultant for Dermavant, Incyte, Qurient, SCM Lifescience and Syneos. He is an investigator for Galderma, Menlo and Trevi. Authors have no other potential conflicts including Honoraria, Speakers bureau, Stock ownership or options, Expert testimony, grants, patents filed, received, pending, or in preparation, royalties, or donation of medical equipment.

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