The immediate impact of COVID-19 on US dermatology practices

To the Editor: COVID-19 is significantly affecting health care delivery worldwide.[1] Chen et al[2] anecdotally reported the impact on dermatology outpatient care at the outbreak epicenter in Wuhan, China, but nothing has yet been assessed for the United States. The purpose of this study was to determine the magnitude of the initial impact of COVID-19 on US dermatology outpatient care.

After prevalidation, a survey comparing outpatient volumes and scheduling issues for the week of February 17 versus the week of March 16, 2020 and for estimation of trends in the next several weeks was e-mailed to US dermatologists on March 21, 2020 (Supplemental Table I; available via Mendeley at https://doi.org/10.17632/cwzhng62w9.1), and the first 1000 responses were tabulated. Thirty responses were removed because of ineligible geography or errors in survey entry, leaving 970 for the analysis. Respondent demographics were analyzed (Table I). Representativeness with regard to geographic location and practice experience compared to American Academy of Dermatology membership data was confirmed (Supplemental Table II; available via Mendeley at https://doi.org/10.17632/cwzhng62w9.1). Statistical significance was calculated using chi-square, difference-of-proportions, and 2-tailed independent *t* tests.

The COVID-19 impact was material (Table II). From the third week in February to the third week in March, the average number of patients seen fell from 149.4 to 63.4 ($P < .0001$), practice days fell from 4.2 to 3.1 ($P < .0001$), and number of biopsies fell from 19.8 to 7.7 ($P < .0001$). Although by March 16 there were only 24,600 cases nationally,[3] the early-phase decreases in patient volume and office days suggest that the magnitude of disease concern impact was greater than actual prevalence. Postponement of nonessential appointments increased from 35.5% to 79.4% ($P < .00001$). Of respondents, 66.3% estimated a greater than 50% decrease in patient volume in the coming 2 weeks (with 18.9% completely closing practices). In addition, 54.6% of postponed appointments were for longer than 4 weeks, with an additional 25.4% not rescheduled.

A greater negative impact was found in US hotspot regions[4] (36% of respondents; see Supplemental Fig 1; available via Mendeley at https://doi.org/10.17632/cwzhng62w9.1) for the week from March 16 to 20 for practice days (3.0 in hotspots vs 3.3 in non-hotspots) and patients seen (56.2 in hotspots vs. 70.0 in non-hotspots). No significant differences in telemedicine usage (39.5% in hotspots vs 37.2% in non-hotspots) or practice closure (21.0% in hotspots vs 17.6% in non-hotspots) were found. Mean estimated telemedicine visits overall for the next 2 weeks was 37.8%. University/academic/government dermatologists were significantly more likely to use telemedicine (57.1%) than private practitioners (35.5%). Telemedicine usage was less likely for dermatologists with more than 30 practice years (>30 years, 32.4% vs <30 years, 40.0%). However, telemedicine usage does not have an impact on the deferred/postponed biopsies that had already occurred during the March week (mean, 10.7) or those predicted to be subsequently postponed.

Table I. Survey respondent demographics (n = 970)

Demographics	%
Practice type	
Private	89.1
University/academic/government	10.9
Years of experience	
1-10	21.8
11-20	26.6
21-30	26.3
>30	25.4
Practice mix	
Medical	63.0
Surgical/oncology	26.7
Cosmetic	14.8
Dermatopathology	4.4

Limitations include that this study reflects a snapshot, which could materially change given the dynamically evolving situation. Estimations could have led to recall bias, and the methodology could have introduced sampling and nonresponse bias. Those with lower work volumes could have been more likely to have time to respond, but this bias was minimized by weekend-only data collection. However, the large sample size and representative distribution mitigate selection bias, and standard statistical testing showed significance.

Our findings show the significant early impact of COVID-19 on US dermatologic care and can help with better understanding of national trends. With an estimated 49.9 million annual US dermatology office visits,[5] the greater than 50% decrease in predicted visits could be devastating. Beyond telemedicine, other innovative approaches will need to be developed and implemented to help delivery of essential dermatology care during this crisis.

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Table II. Comparison of US dermatology practices, February 17 to 21 versus March 16 to 20 and future practice estimates

Questions	Week of February 17, 2020, mean	Week of March 16, 2020, mean	*P* value
How many days did you practice?	4.2	3.1	<.0001
How many patients were seen in your primary practice location?	149.4	63.4	<.0001
How many biopsies did you perform for suspicious pigmented skin lesions?	19.8	7.7	<.0001
Did you selectively postpone nonessential appointments?	Yes: 35.5% No: 64.5%	Yes: 79.4% No: 20.6%	<.00001
How many biopsies were postponed?	3.9	10.7	<.0001

Prospective estimate questions	Estimate	%
If appointments were postponed during the week of March 16 to 20, when did you primarily reschedule them?	None were postponed	12.8
	March 23 to April 15	7.0
	April 16 to 30	26.9
	May 1 to 31	15.5
	June 1 to 30	8.8
	After July 1	3.4
	Not rescheduled at this time	25.6
If biopsies were postponed during the week of March 16 to 20, when did you primarily reschedule them?	None were postponed	0
	March 23 to April 15	6.4
	April 16 to 30	20.3
	May 1 to 31	11.4
	June 1 to 30	5.6
	After July 1	1.9
	Not rescheduled at this time	54.7
Relative to your practice during the week of March 16 to 20, what do you anticipate your schedule for March 23 to April 10 will look like?	Similar schedule and patient load	6.1
	0% to 25% reduction	8.3
	26% to 50% reduction	19.4
	51% to 75% reduction	13.3
	>5% reduction (but still open)	34.1
	Completely closing practice	18.9
In the next month, what percentage of your patient visits will be done using telemedicine because of COVID-19?		Mean: 37.8

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