Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

during an in-patient visit that would have been missed via teledermatology. Further studies will be needed to understand how reduced overall emergency department visits for dermatologic complaints and an increased incidence of virtual consults during this period will affect long-term outcomes for patients.

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REFERENCES

1. Hartnett KP, Kite-Powell A, DeVies J, et al. Impact of the COVID-19 Pandemic on Emergency Department Visits---United States, January1, 2019—May 30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69:699-704.
2. Wilmer EN, Gustafson CJ, Ahn CS, Davis SA, Feldman SR, Huang WW. Most common dermatologic conditions encountered by dermatologists and nondermatologists. *Cutis*. 2014; 94:285-292.
3. Gabel CK, Nguyen E, Karmouta R, et al. Use of teledermatology by dermatology hospitalists is effective in the diagnosis and management of inpatient disease. *J Am Acad Dermatol*. 2020. https://doi.org/10.1016/j.jaad.2020.04.171.
4. Deacon DC, Madigan LM. Inpatient teledermatology in the era of COVID-19 and the importance of the complete skin examination. *JAAD Case Rep*. 2020;6(10):977-978.

https://doi.org/10.1016/j.jaad.2020.09.060

Patient and physician perspectives on teledermatology at an academic dermatology department amid the COVID-19 pandemic

To the Editor: In the era of COVID-19, dermatology practices have rapidly adopted teledermatology.[1,2] Prepandemic research showed physician and patient satisfaction; however, these studies included groups who chose the telemedicine medium.[3,4] Pandemic-related restrictions on in-person care catalyzed a broader adoption of telemedicine among both physicians and patients. This study examines the experiences of both groups with teledermatology during the COVID-19 pandemic.

We surveyed the clinical faculty in the Department of Dermatology at Yale School of Medicine and patients seen via Epic MyChart (Epic, Verona, WI) synchronous video visits from mid-March to mid-May 2020. We performed an ordinal logistic regression using the polr package in R, version 3.6.1 (R Foundation for Statistical Computing, Vienna, Austria) to compare patient and physician perceptions. We excluded all *unable to answer* responses from the regression analysis.

Faculty were amenable to managing many skin conditions solely by telemedicine or by telemedicine in conjunction with in-person visits. However, 23 of 24 faculty members (96%) believed that total body skin examination should only be managed through in-person visits (Fig 1).

Table I summarizes physician and patient perspectives on virtual care; 50% of faculty reported prior experience with teledermatology, although the majority had used only store-and-forward.[5]

All physician respondents believed that teledermatology allowed them to contribute to efforts to reduce in-person care; however, 87% of physicians responded that some patients' skin cancer or skin disease likely progressed because of COVID-related avoidance of interaction with in-office medical care (Table I).

Finally, most patients reported that teledermatology was time saving. Including travel, wait time, and time off from work, 65% of patients reported saving at least 1 hour of time (Table I).

Patients were nearly 50 times more likely than faculty to agree or strongly agree that the quality of care during a telemedicine visit was equal to an in-office visit (odds ratio, 48.28; 95% confidence interval, 19.55-128.40; $P < .001$). Patients were nearly 20 times as likely as faculty to agree or strongly agree that the picture and video quality during the video visit were good (odds ratio, 18.05; 95% CI, 8.56-38.75; $P < .001$). The majority of both patients and physicians reported future interest in video visits ($P = .47$) (Table I).

Our study indicates that patients and physicians are overwhelmingly interested in teledermatology in the future. Although most physicians had limited previous experience, the majority believed that teledermatology allowed them to contribute to COVID-19 control efforts and that many conditions could be managed by telemedicine alone or by telemedicine in conjunction with office visits. However, our study highlights important

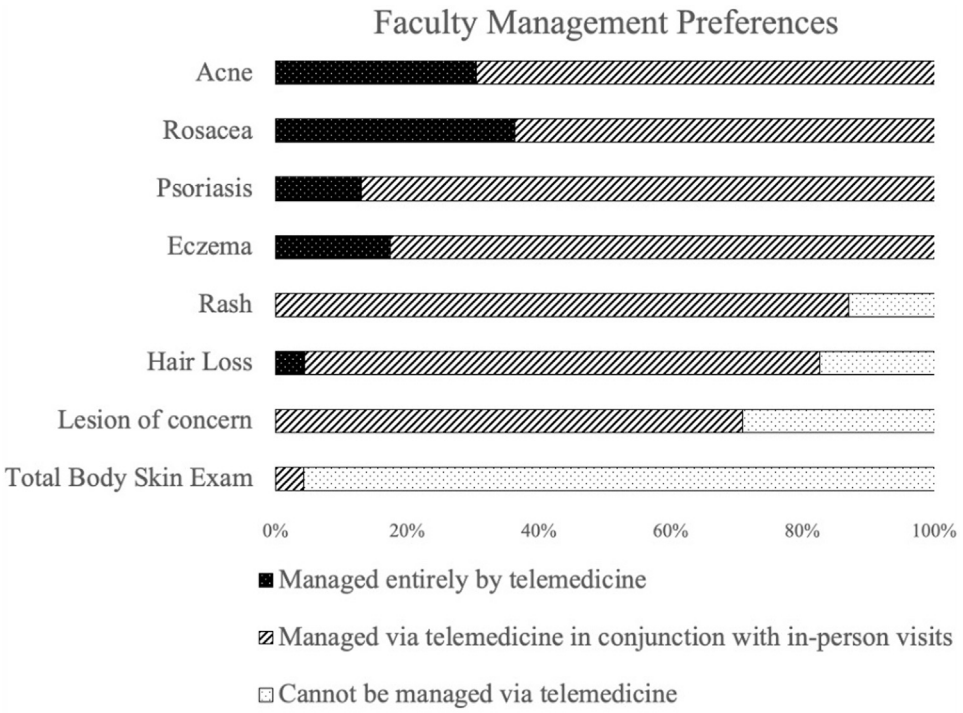

Fig 1. Faculty management preferences for managing various dermatologic conditions via telemedicine versus in-person visits.

Table I. Patient and physician perspectives on telemedicine care

Question posed to patients and/or physicians	Patients, n (%) (N = 548)	Physicians, n (%) (N = 24)	Odds ratio	95% CI	*P* value
The MyChart App made it easy to have a video visit			4.46	2.05-9.71	.001
Strongly agree	365 (67.1)	7 (30.4)			
Agree	137 (25.2)	11 (47.8)			
Disagree	14 (2.6)	2 (8.7)			
Strongly disagree	21 (3.9)	3 (13.0)			
Unable to answer	7 (1.3)	0			
The video visit picture and audio quality were good			18.05	8.56-38.75	<.001
Strongly agree	324 (59.2)	0 (0)			
Agree	169 (30.9)	9 (37.5)			
Disagree	24 (4.4)	10 (41.7)			
Strongly disagree	16 (2.9)	5 (20.8)			
Unable to answer	14 (2.6)	0			
Patient received/I am able to provide the same quality of care during our video visit as an office visit			48.28	19.55-128.40	<.001
Strongly agree	234 (42.8)	1 (4.2)			
Agree	213 (38.9)	2 (8.3)			
Disagree	61 (11.2)	11 (45.8)			
Strongly disagree	7 (1.3)	10 (41.7)			
Unable to answer	32 (5.9)	0			
I am interested in using video visits for future appointments			1.33	0.62-2.85	.47
Strongly agree	223 (40.8)	8 (33.3)			
Agree	238 (43.6)	13 (54.2)			
Disagree	53 (9.7)	3 (12.5)			
Strongly disagree	10 (1.8)	0			
Unable to answer	22 (4.0)	0			

Continued

Table I. Cont'd

Question posed to patients and/or physicians	Patients, n (%) (N = 548)	Physicians, n (%) (N = 24)	Odds ratio	95% CI	*P* value
My family member or I would be more likely to choose a provider who offered video visits			—	—	—
Strongly agree	195 (35.8)	—			
Agree	233 (42.8)	—			
Disagree	72 (13.2)	—			
Strongly disagree	9 (1.7)	—			
Unable to answer	35 (6.4)	—			
How much time did you save by having a video visit? (includes travel, wait, time off of work)			—	—	—
Less than 1 hour	192 (35.0)	—			
1-2 hours	267 (48.7)	—			
2-4 hours	67 (12.2)	—			
More than 4 hours	22 (4.0)	—			
My patients appreciated the ability to have a video visit			—	—	—
Strongly agree	—	14 (60.9)			
Agree	—	9 (39.1)			
Disagree	—	0			
Strongly disagree	—	0			
Unable to answer	—	0			
Offering video visits during the pandemic allowed me to feel that I was participating in the overall effort to decrease the need for in-person care			—	—	—
Strongly agree	—	18 (78.3)			
Agree	—	5 (21.7)			
Disagree	—	0			
Strongly disagree	—	0			
Unable to answer	—	0			
Patients were generally understanding of the situation and our effort to conduct care using telemedicine			—	—	—
Strongly agree	—	12 (50)			
Agree	—	12 (50)			
Disagree	—	0			
Strongly disagree	—	0			
Unable to answer	—	0			
I believe that some of my patients' skin cancer, or skin disease, has progressed as a result of avoiding interaction with the medical system during the COVID-19 pandemic			—	—	—
Strongly agree	—	5 (21.7)			
Agree	—	15 (65.2)			
Disagree	—	2 (8.7)			
Strongly disagree	—	1 (4.3)			
Unable to answer	—	0			
Did you have experience offering teledermatology services before the COVID-19 pandemic?			—	—	—
Yes, store-and-forward, physician-to-physician (eConsults)	—	9 (38)			
Yes, live synchronous (video visits)	—	2 (8)			
Yes, store-and-forward, direct-to-patient	—	1 (4)			
No	—	12 (50)			

CI, Confidence interval.

discrepancies between physician and patient perceptions and emphasizes significant concerns among physicians regarding the quality of virtual care provision. They also suggest that patients, compared to physicians, value convenience when thinking about quality. These insights represent opportunities for technologic innovation but also indicate a need for caution as we integrate this care modality. Our study is limited by our sample size of 572 and the fact that patients who did not schedule video visits could not be included. Larger, multi-institutional studies are needed to better understand the limitations of, and opportunities afforded by, teledermatology during the public health crisis and beyond.

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REFERENCES

1. McGee JS, Reynolds RV, Olbricht SM. Fighting COVID-19: early teledermatology lessons learned. *J Am Acad Dermatol*. 2020;83:1224-1225.
2. Perkins S, Cohen JM, Nelson CA, Bunick CG. Teledermatology in the era of COVID-19: experience of an academic department of dermatology. *J Am Acad Dermatol*. 2020;83(1):e43-e44.
3. Wang YC, Ganzorig B, Wu CC, et al. Patient satisfaction with dermatology teleconsultation by using MedX. *Comput Methods Programs Biomed*. 2018;167:37-42.
4. Coustasse A, Sarkar R, Abodunde B, Metzger BJ, Slater CM. Use of teledermatology to improve dermatological access in rural areas. *Telemed J E Health*. 2019;25(11):1022-1032.
5. Deeds SA, Dowdell KJ, Chew LD, Ackerman SL. Implementing an opt-in eConsult program at seven academic medical centers: a qualitative analysis of primary care provider experiences. *J Gen Intern Med*. 2019;34(8):1427-1433.

https://doi.org/10.1016/j.jaad.2020.09.029

Effect of anti–tumor necrosis factor therapy on the risk of respiratory tract infections and related symptoms in patients with psoriasis—A meta-estimate of pivotal phase 3 trials relevant to decision making during the COVID-19 pandemic

To the Editor: The COVID-19 pandemic turned attention to how immune-targeted therapies affect respiratory tract infections (RTIs). We reported meta-estimates of the risk of RTI associated with biologics that target interleukin (IL) 17 (odds ratio [OR], 1.56; 95% confidence interval [CI], 1.04-2.33)[1] and IL-23 (OR, 1.24; 95% CI, 0.98-1.56)[2] based on publicly available pivotal trial data. We now evaluate tumor necrosis factor inhibitors (TNFi) using a similar approach. TNF-α plays an important role in defense against viral infection, possibly through lysis of virus-infected cells and/or induction of an antiviral state in normal cells. In contrast, some models suggest that TNF may mediate significant tissue damage in RTIs.[3] Despite extensive studies of TNF inhibitors over the past 2 decades, there are limited data on the effect of these biologics on the risk of RTIs.

To rapidly assess the risk of RTI associated with TNFi, terms consistent with RTI were evaluated from data reported in publications of US Food and Drug Administration–approved, phase 3, placebo-controlled clinical trials listed in the prescribing information for adalimumab, infliximab, etanercept, and certolizumab. This data source was used because most trials were conducted before the initiation of clinicaltrials.gov. RTI events were summed and divided by the total number of individuals at risk in each study and compared to the placebo group by a meta-estimate. A significant increased risk of RTI was not observed in TNFi compared to placebo (OR, 1.08; 95% CI, 0.84-1.38; $P = .55$) (Fig 1). The events reported in our primary analysis used varying drug dosages. In our secondary analysis, we limited the exposure to only US Food and Drug Administration–approved dosing