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Combining Teledermatology with Non-Physician Members of the Healthcare Team to Address Access and Compliance Barriers in Pediatric Atopic Dermatitis: A Needs Assessment

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Combining Teledermatology with Non-Physician Members of the Healthcare Team to Address Access and Compliance Barriers in Pediatric Atopic Dermatitis: A Needs Assessment.

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This study was exempted from IRB review.

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Figure Captions:

Figure 1. Demographics of Survey Respondents

Figure 2. Responses of Providers Managing Atopic Dermatitis on Telemedicine and Non-Physician Members of the Healthcare Team (NMOHT) Usage to Deliver Adequate Follow-Care for Patients with AD

Conflicts of Interest: None

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Access and Compliance Barriers in Pediatric Atopic Dermatitis: A Needs Assessment

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With skin complaints representing 8% of primary care and 20% of pediatric visits,¹ and the
current workforce shortage and metropolitan clustering of pediatric dermatologists in the US,²
novel, cost-effective avenues of care for chronic disease management and in pediatric
dermatology are needed. Teledermatology has reduced costs and wait-times and increased access
to care, especially for chronic disease management (e.g. acne, psoriasis) and locations where
travel is a barrier to care.^{3,4} Medical assistant (MA) and community health worker (CHW)
interventions have also enhanced adherence and reduced costs in some scenarios (e.g.
mammography, diabetes self-care, inhaler therapy).⁵ Training curricula for CHW-based
education and compliance improvement programs for conditions, including atopic dermatitis
(AD), have shown promising outcomes.⁶

In this IRB-exempted needs assessment study, attitudes and requirements of providers
within the Massachusetts General Hospital (MGH) and Boston Children's Hospital (BCH)
systems were examined regarding utilization of videoconferencing teledermatology and non-
physician members of the healthcare team (NMOHT) (e.g. nurses, MA's, and CHW's with
specific training for AD), for follow-up care of patients with AD. Survey development began
with qualitative interviews of 12 physicians managing pediatric AD, representing various

71 backgrounds, practice settings, and specialties (dermatologists, pediatricians and pediatric
72 dermatologists) to identify questions most relevant to access and care of these patients The
73 survey was reviewed for content and face validity by a statistician and trainees of two
74 dermatology training programs.

75 A voluntary anonymous survey was made available to providers throughout the pediatric,
76 allergy and immunology and dermatology departments of the MGH and BCH hospital systems
77 identified as possible providers for pediatric AD patients, including staff physicians, residents,
78 fellows, and nurse practitioners (n=524), both electronically and in paper format at departmental
79 meetings. There was 11% attrition due to those who opted out of receiving electronic surveys,
80 email addresses that failed to reach a destination, and withdrawal by providers clarifying they did
81 not care for pediatric patients with AD. Of those remaining, 188 participated (40% response).

82 Among participants (49% staff physicians, 41% resident physicians, 10% nurse
83 practitioners), 45% estimated ≥ 2 month wait times for appointments, 50% estimated no-show
84 rates $\geq 20\%$. Top reasons cited for missed appointments were: forgetting (56%), difficulty of
85 travel (55%), family responsibilities (46%), and long wait times (28%). (Figure 1,2)

86 The majority ($>70\%$) of providers estimated $\geq 20\%$ of patients could be followed via
87 teledermatology. Most (90%) predicted it would increase access, save time (77%), and enable
88 adequate disease management (69%). Most supported deployment of NMOHCT for certain
89 aspects of follow up care, including: addressing patient and family questions about AD (87%),
90 medication-related teaching and compliance counseling (81%), counseling on skin care (99%),
91 and social issues affecting care (95%). Limitations include incomplete response rate, and
92 potential selection bias toward engaged individuals more likely to take a voluntary, non-
93 incentivized survey.

These findings suggest that providers caring for patients with pediatric AD would support use of teledermatology and NMOHCT for follow up care, suggesting utility for a model of care integrating telemedicine and healthcare workers that balances the needs and preferences of providers with those of patients.

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118 Figure Legend:

119 Figure 1. Demographics of Survey Respondents

120

121

122 Figure 2. Responses of Providers Managing Atopic Dermatitis on Telemedicine and Non-

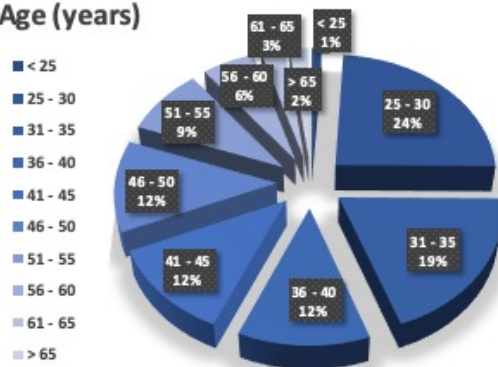
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124 Physician Members of the Healthcare Team (NMOHT) Usage to Deliver Adequate Follow-Care

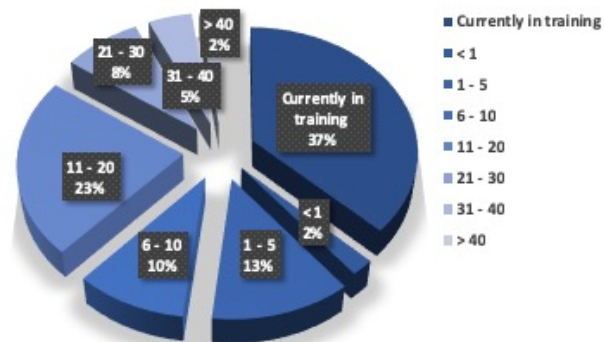
125

126 for Patients with AD

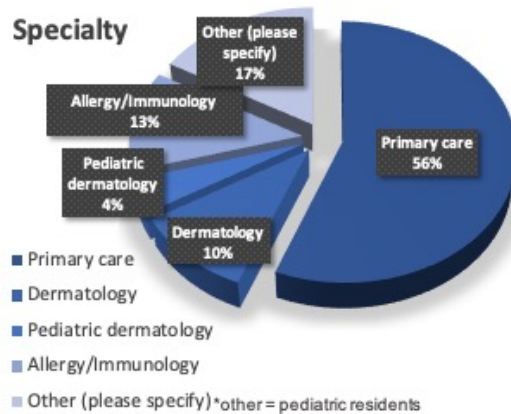
Age (years)



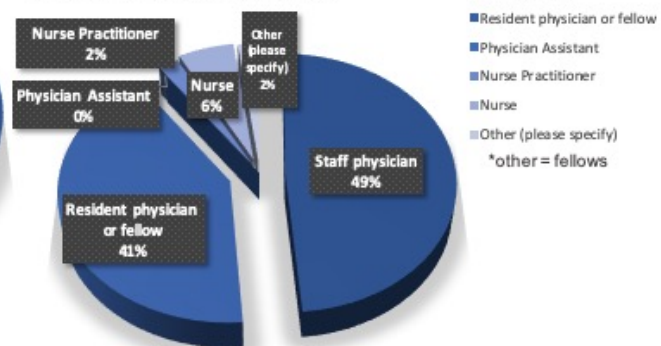
Experience Caring for Patients (Years)



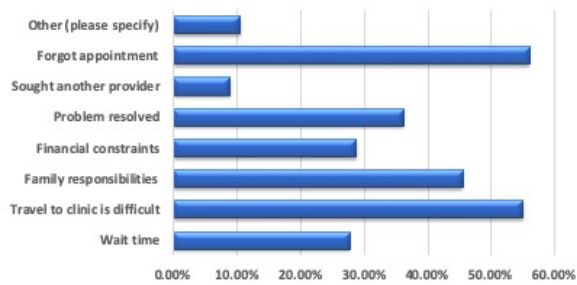
Specialty



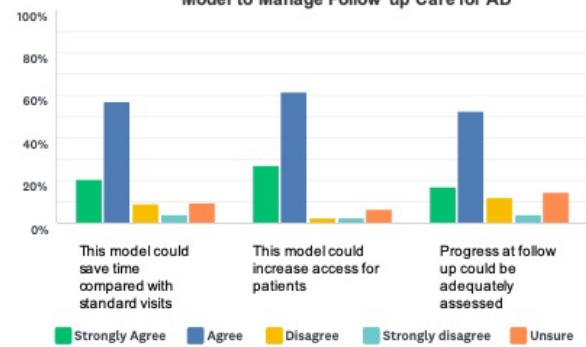
Role in Healthcare Team



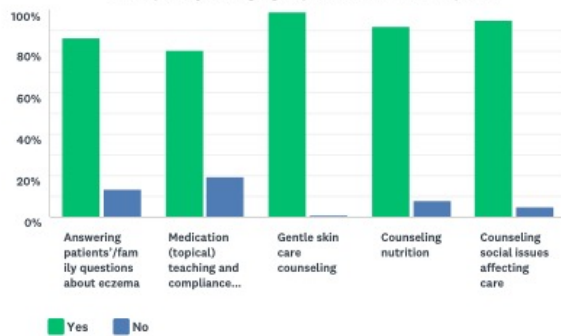
Major Reason(s) Cited by Providers for Atopic Dermatitis For Missed Appointments



Atopic Dermatitis (AD) Provider Responses to Use of this Model to Manage Follow up Care for AD



AD Provider Responses on Non-Physician Healthcare Workers Adequately Managing Aspects of AD Follow-up Care



Provider Response on Adequacy of this Model for AD Patient Education and Counseling Care

