

Prevalence of self-reported physician diagnosis of Chronic Hand Eczema in adults: A cross-sectional study of more than 10,000 participants in the general population – Results from the CHECK study in the United States



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Conclusions

- Results from this large epidemiological study in the US show that Chronic hand eczema (CHE) is a common skin disease, with an overall self-reported physician-diagnosed CHE prevalence of 9.6% in the US general population.
- Stratified findings suggest higher CHE prevalence in the US among males, those employed, and adults younger than 40, as well as individuals living in urban areas.
- Differences in prevalence may stem from CHE's association with occupation with occupation or daily exposure to irritants and/or allergens. Additional studies are needed to better understand epidemiological variations among US populations.
- An understanding of prevalence is important to quantify the burden of CHE, as it highlights the potential financial impact of disease management. Moreover, improved understanding can enable better planning and resource allocation.

Objectives

- To estimate the prevalence of CHE among adults aged 18 to 69 in the general population in the US.
- To describe the variation in self-reported physician-diagnosed CHE prevalence according to key socio-demographic characteristics (sex, age, urban/rural setting, current employment status, region of residence, and race).
- To describe disease features of such CHE in terms of localization of CHE and chronicity of disease.

Synopsis (Background)

- Hand eczema (HE) is an inflammatory skin disease of the hands and/or wrists¹, characterized by key symptoms of itch and pain.
- CHE is HE that lasts 3 months or more and/or returns at least 2 times a year.²
- CHE is also associated with a significant impairment of patient quality of life, affecting work productivity as well as social and family aspects.³
- Data on the prevalence of CHE in the United States (US) is limited^{1,4-6} possibly due to the absence of a specific International Classification of Diseases code and no specific US guidelines for the diagnosis of CHE.⁷⁻⁹
- Robust, US-specific prevalence data are needed to improve disease understanding together with population-level health and economic burden.
- A similar study was conducted in Canada, France, Germany, Italy, Spain and the United Kingdom (UK).¹⁰

Methods

- CHECK-US (Chronic Hand Eczema epidemiology, Care, and Knowledge of real-life burden in the US) was a cross-sectional study that enrolled participants, aged 18 to 69 years old, using online panels.
- Participants were representative of the US general population. Quotas and weighting were applied to ensure participant representativeness on sex, age, urban/rural setting, current employment status, region of residence, and race.¹¹
- CHE was defined as self-reported eczema on the hand(s)/wrist(s) in the past 12 months, persisting for ≥3 months or with ≥2 flares.²
- Information on self-reported physician diagnosis of CHE was collected.
- Prevalence estimates with 95% confidence intervals (CIs) are reported.

Abbreviations CHE=Chronic hand eczema; IQR=interquartile range; SD=standard deviation.

Acknowledgements The CHECK-US study was sponsored by LEO Pharma, Madison, NJ, USA. The authors would like to thank Alexanne Morillo and Maria Thome (Oracle Life Sciences) for support with statistical analyses and poster design, respectively. Project management and medical writing were provided by Lysel Brignoli and Bieunin Rault (Oracle Life Sciences) and funded by LEO Pharma, Madison, NJ, USA.

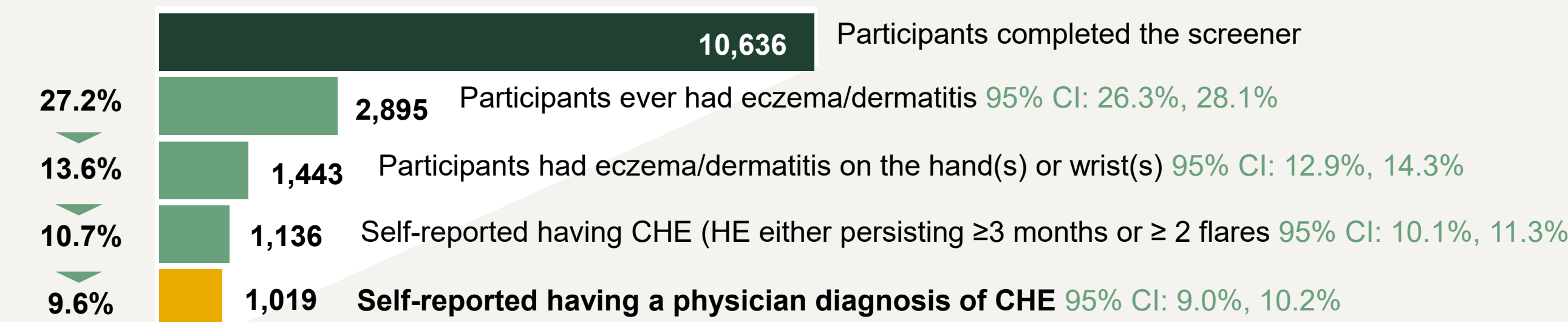
Presented at the Fall Clinical 25 Annual Congress, September 2025

Results

Prevalence

- In total, **10,636 participants** who fulfilled the quotas and completed the screening questionnaire to the end were included in the final analysis (**Figure 1**).
- Overall, **27.2%** of participants reported having experienced eczema/dermatitis at least once in their life.
- Life-time prevalence of hand eczema was 13.6% (95% CI: 12.9%-14.3%). The majority of them (n=1,212) had hand eczema in the past 12 months, which corresponds to 11.4% of the overall population.
- Furthermore, 10.7% (10.1%-11.3%) of the surveyed population self-reported CHE, of these the majority (72.0%) fulfilled both criteria defining chronicity.
- Among this group, 1,019 participants who fulfilled the criteria defining chronicity and reported a physician diagnosis were classified as patients with physician-diagnosed CHE, corresponding to 9.6% (9.0%-10.2%) of the overall population.

Figure 1 Prevalence calculation



Socio-demographic characteristics

- Among the 1,019 self-reported physician-diagnosed CHE participants, 54.7% (n=557) were males.
- The mean age at enrolment for these participants was 37.2 years (SD=12.5 years).
- Most participants were employed (76.4%, n=779) and residing in an urban area (86.8%, n=884).
- The majority of participants indicated being White (72.5%, n=739), 16.1% (n=164) Black or African American, and 5.9% (n=60) Asian. Participants were allowed to select multiple races (3.7%, n=38). The proportions per single race categories are presented in **Table 1** below.

Table 1 Socio-demographic characteristics of self-reported physician-diagnosed CHE participants (n=1,019)

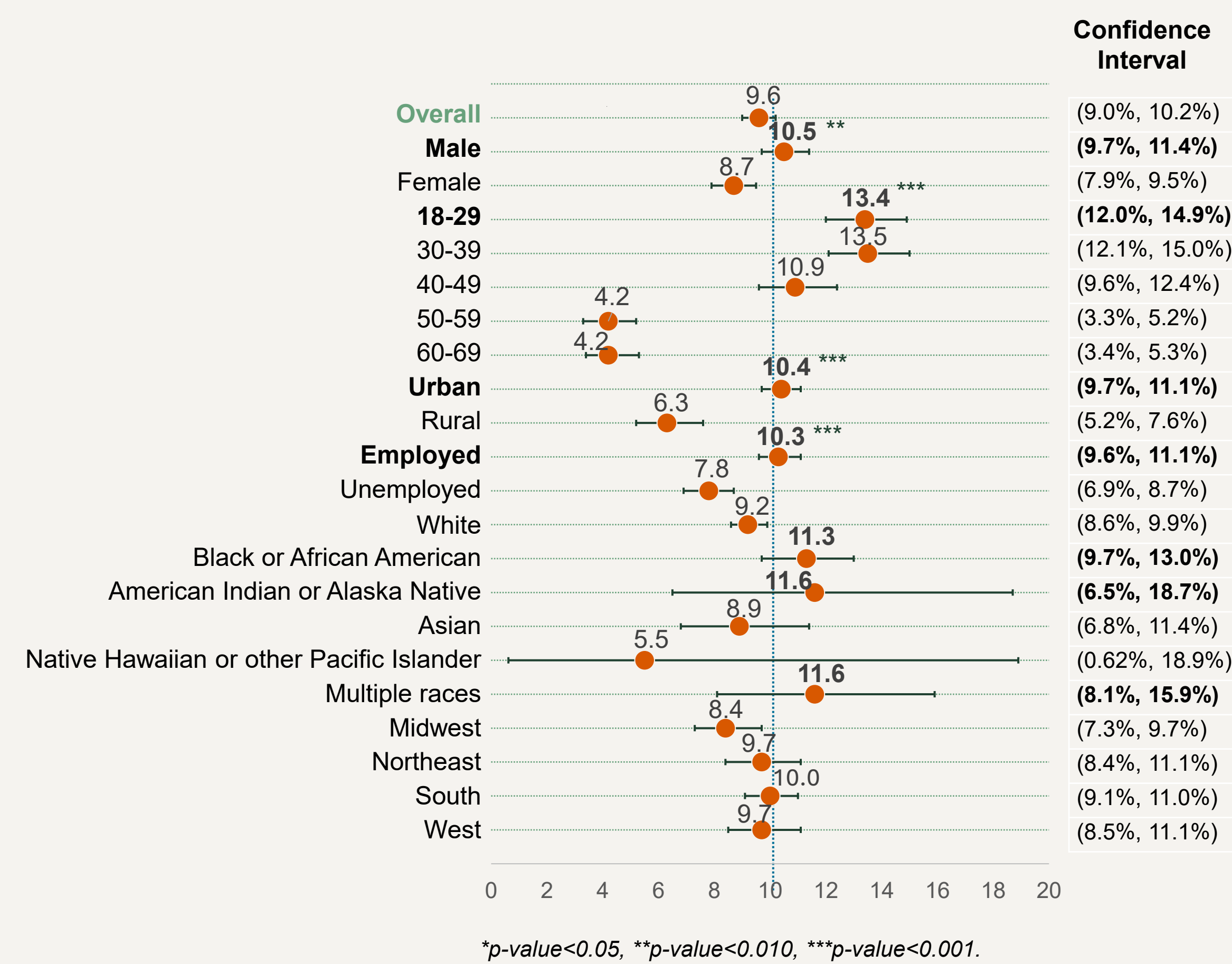
Sex, n (%)		Employment status, n (%)		Race, n (%)	
Male	557 (54.7%)	Employed	779 (76.4%)	Single race	981 (96.3%)
Female	461 (45.3%)	Unemployed	240 (23.6%)	White	739 (72.5%)
Age, n (%)		Region of residence, n (%)		Black or African American	164 (16.1%)
18 – 29	336 (33.0%)	Northeast	179 (17.5%)	Asian	60 (5.9%)
30 – 39	297 (29.2%)	Midwest	183 (18.0%)	American Indian or Alaska Native	17 (1.6%)
40 – 49	220 (21.6%)	South	413 (40.5%)	Native Hawaiian or Other Pacific Islander	2 (0.2%)
50 – 59	82 (8.1%)	West	244 (24.0%)	Multiple races	38 (3.7%)
60 – 69	83 (8.1%)				
Current residence, n (%)					
Urban	884 (86.8%)				
Rural	135 (13.2%)				

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Variations in self-reported physician-diagnosed CHE prevalence across sociodemographic groups (Figure 2)

- Prevalence of physician-diagnosed CHE was higher among **males** vs. females (10.5% [9.7%-11.4%] vs. 8.7% [7.9%-9.5%]; p<0.01).
- Prevalence was higher among **employed** vs. non-employed (10.3% [9.6%-11.1%] vs. 7.8% [6.9%-8.7%]; p<0.001), and higher among inhabitants of **urban** vs. rural areas (10.4% [9.7%-11.1%] vs. 6.3% [5.2%-7.6%]; p<0.001).
- Prevalence was highest in participants **aged 18-39 years** (13.4% [12.4%-14.5%]) and lowest in those aged 50-69 years (4.2% [3.6%-4.9%]).
- Prevalence was the highest among people who reported being of **multiple races** (n=38/328, 11.6% [8.1%-15.9%]) and those who identified as **American Indian or Alaska Native** (n=17/143, 11.6% [6.5%-18.7%]), followed by people who identified as Black or African American (n=164/1453, 11.3% [9.7%-13.0%]). However, there was no statistical significance.
- No significant differences were observed between the Midwest, Northeast, South and West regions.

Figure 2 Variation of self-reported physician-diagnosed CHE prevalence across sociodemographic groups (% prevalence with 95% confidence intervals)

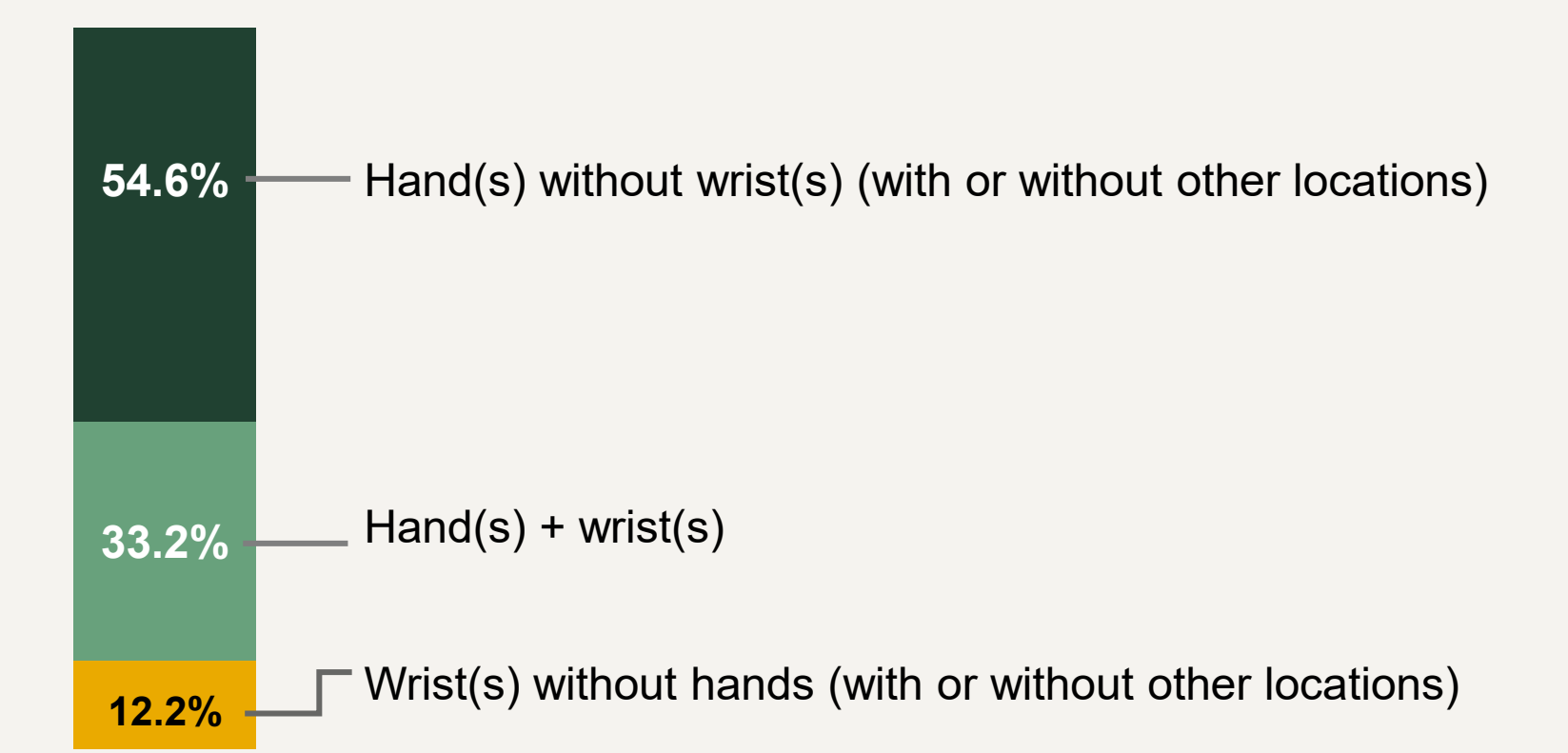


Chronic hand eczema characteristics (Figure 3)

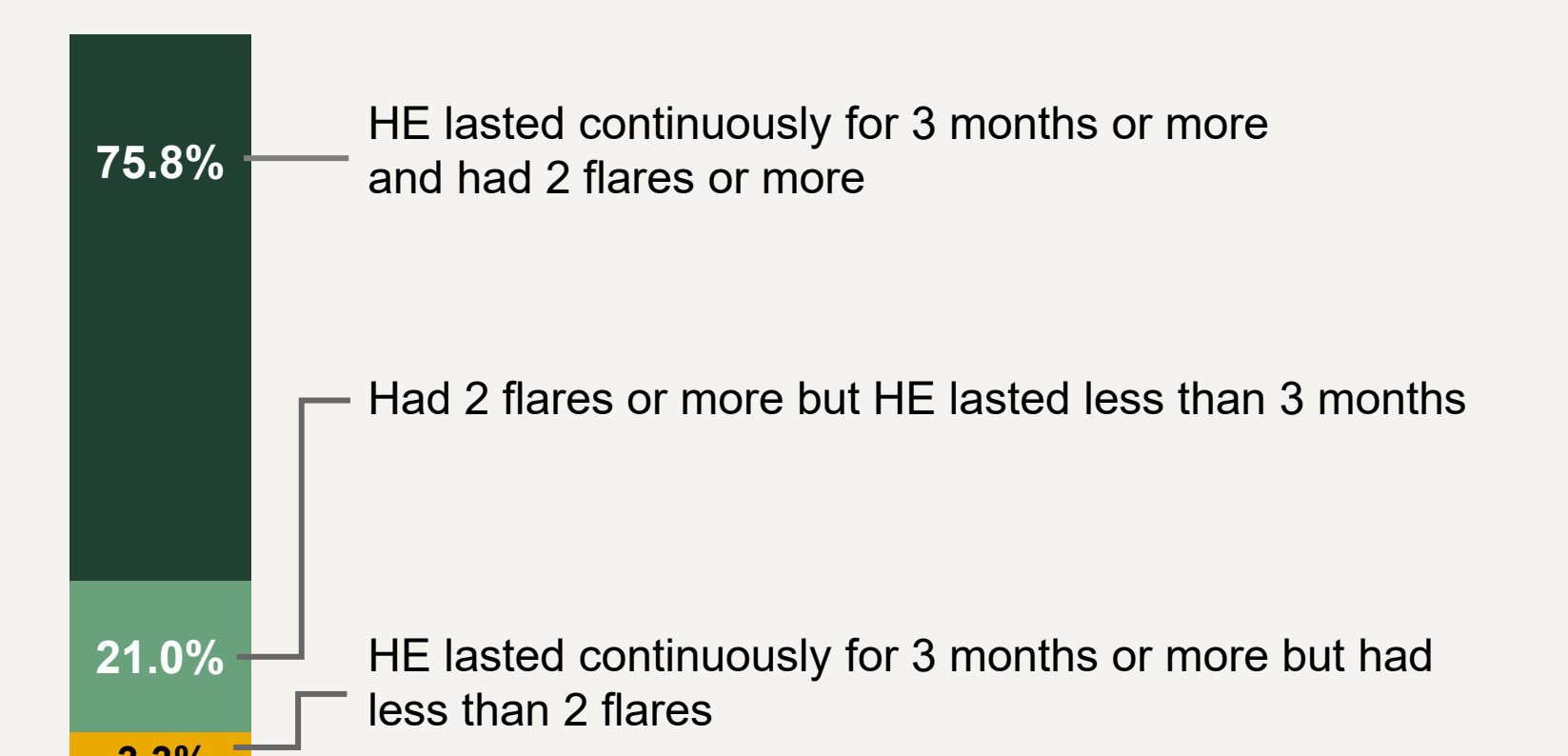
- Among participants with self-reported physician-diagnosed CHE, **87.8% (n=894) reported involvement of the hand** (with or without the wrist), and 12.2% (n=124) reported involvement of the wrist only.
- Among them, **75.8% reported having HE continuously for three months or more and at least two flares in the preceding 12 months**. A total of 21.0% reported having experienced at least two flares (but their HE lasted less than 3 months), and 3.3% of participants reported having HE continuously for at least three months (but had less than 2 flares).

Figure 3 Chronic hand eczema characteristics of participants with self-reported physician-diagnosed CHE

Areas of the body affected by eczema (n=1,019)



Chronicity of HE in the past 12 months detailed (n=1,019)



One limitation of this study is that CHE prevalence estimates are based on patient-reported data.

Disclosures R.C. has served as an advisor, consultant, speaker, and/or investigator for AbbVie, Acelyrin, Alumis, Amgen, AnaptysBio, Apogee Therapeutics, Arcutis Biotherapeutics Inc., Argenx, Astria Therapeutics Inc., Avaleer Health, Beiersdorf, Boehringer Ingelheim, Bristol Myers Squibb, Cara Therapeutics, Castle Biosciences, Cellnex Therapeutics Inc., Cln Skin Care, Dermavant, Eli Lilly and Company, EMD Serono, Formation Bio, Forte Biosciences, Galderma, Genentech, GSK, Incyte, Imagen Bio Inc., Johnson & Johnson, Kenvue, LEO Pharma, L'Oréal, Nektar Therapeutics, Nia Health, Novartis, Opalio, Organon, Pfizer Inc., RAPT, Regeneron, Sanofi, Stryx, Takeda, TRex Bio, UCB, Zai Lab. S.B. is employed by and shareholder in LEO Pharma Madison, NJ, USA. A.B.S. and S.S. are employed by LEO Pharma Madison, NJ, USA. E.D.A. and D.M. are employed by and shareholder in LEO Pharma A/S, Ballerup, Denmark. B.R. and A.M. are employed by Oracle Life Sciences, Paris, France. E.S. reports personal fees from AbbVie, Actavis Therapeutics, Amgen, Arcutis, Astria Therapeutics, Atova Therapeutics Inc., Bambusa Therapeutics Inc., Castle, CorEvitas, Dermira, Eli Lilly, Evonunne, FIDE, Impetus Healthcare, Incyte, Inovadern Rechel/Indero, Imagen Biopharmaceuticals, Janssen, LectureLinx (LLX), Leo, NUMAB Therapeutics AG, Pfizer, Reclux Pharma, Regeneron, Roche Products Ltd, Sanofi-Genzyme, SITRYX Therapeutics and reports grants (or serves as Principal investigator role) for AbbVie, Acrotech, Amgen, Arcutis, ASLAN, Castle, Dermavant, CorEvitas, Dermira, Eli Lilly, Incyte, Pfizer, Regeneron, Sanofi-Genzyme, Target, VentiSkin.