

BRIEF REPORT

Beyond Fitzpatrick skin types: A Delphi consensus on key considerations for a universal skin typing classification

There is an unmet need for a universal skin classification tool (USC) that incorporates skin color for dermatologic clinical practice and research. Harvey et al conducted a comprehensive review of existing skin classification systems and identified 17 classification instruments being used.¹ The variety of existing tools emphasizes the need for consensus amongst clinicians and researchers to ensure accurate patient evaluation. As the population diversifies, it is important to have reliable tools for accurate assessment of skin characteristics that are relevant to dermatologic care and research. To address the lack of consensus in skin classification, we assembled a panel of dermatologists and physician scientists with experience in skin of color (SOC) to discuss and determine the components of a USC that will aid in the baseline assessment and risk stratification of patients in clinical practice and research settings.

The study was designed by VC and VMH, who oversaw the selection of the panelists, conducted a comprehensive literature review, developed the initial Delphi statements, evaluated the results of the Delphi rounds and adapted new statements based on those results. The Delphi online survey platform was used to conduct each round and analyze results. The Delphi process methodology used to reach consensus among panel members is outlined in Fig 1.

Twenty two experts were invited to participate in the Delphi consensus. Invitees were members of the Skin of Color Society and selected based on track record and expertise in pigmentary disorders, photobiology, clinical trials, cosmetic dermatology, anthropology, and SOC dermatology. Invitees were not compensated for their time and contribution. Twenty of the panelists were from the United States, 1 from South Africa and 1 from India. Panel members were diverse in their practice settings and years of experience. This consensus report was prepared using the Accurate Consensus Reporting Document guidelines to ensure transparency and uniformity. Table I outlines the final 6 statements, which met full consensus.

In this study, experts reached full consensus on the need for a skin classification instrument beyond the Fitzpatrick system given its significant limitations.

We also identified critical elements that should be incorporated into the development of a novel tool including the importance of patient stakeholder engagement, rigorous validation studies, and the use of accessible terminology. We propose developing and validating a novel USC including objective and subjective measures of skin color by patients and physicians that would appropriately stratify medical risk. Such an instrument would allow for dynamic changes in cutaneous response to time and the environment and annotate when patients require further evaluation of pigment alterations, erythema, or scarring. We invite patients and key stakeholders to participate in the development of such a tool that would be respectful and culturally sensitive to diverse populations. Finally, we urge the dermatologic community and the future USC to embrace a framework that accommodates diverse skin types and tones rather than a rigid set of 6 defined subtypes. Based on our findings, there remains a critical need for a novel skin classification system. Efforts to develop a tool suitable for practical application are underway.

The consensus initiative was conducted through 3 iterative rounds, each consisting of an anonymous online questionnaire followed by an in-person or virtual group meeting. Questionnaires surveyed participants on their opinions and attitudes regarding skin color and type classification using a 5-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree) with an optional section for narrative comments. Between rounds, statements were discussed and revised. During panel discussion, full and critical consensus statements could be revised, combined, or split into 2 statements. The final round contained 6 statements that were all adopted as consensus for future USC use. All survey questionnaires were conducted on the Delphi online survey platform (DecisionEyes, Lisbon, Portugal). The final statement set descriptions and all statements from the Delphi process are included in Supplementary Material, available via Mendeley²⁻⁵ at <https://doi.org/10.17632/bznkw2pxdy.1>.

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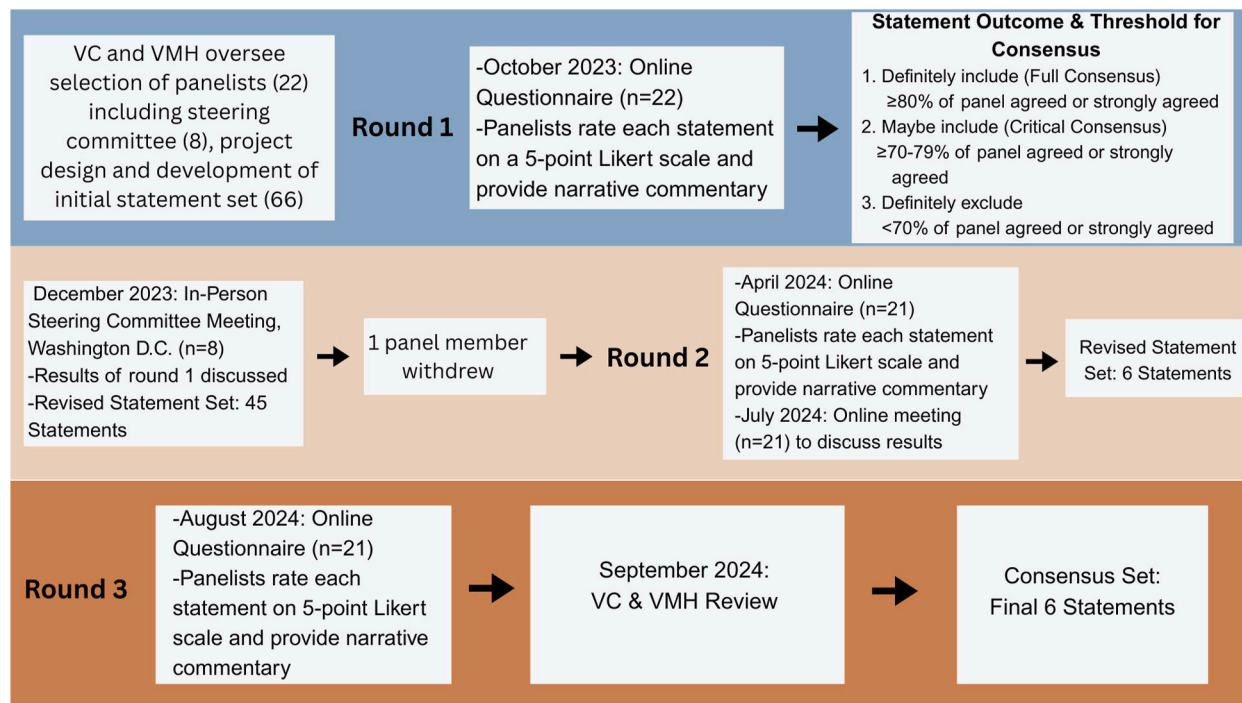


Fig 1. Flowchart of USC modified Delphi process.

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Table I. Consensus statements on universal skin classification tool

Universal skin classification consensus statements	Key findings	Response rates
Statement 1. The Fitzpatrick Skin Type Classification system is the dermatologists' most widely used system. However, its current format has limitations for research and clinical practice.	FST remains largely subjective with important clinical care and research limitations.	76% Strongly Agreed 19% Agreed
Statement 2. A universal tool for assessing skin type should be applicable to clinical practice and research, including both physician- and patient-assessed measures, and should be simple and easy to use.	A USC should take under 1 min to complete while allowing for input from both patient and physician.	76% Strongly Agreed 14% Agreed
Statement 3. A universal classification tool should be validated by dermatologists with experience caring for patients with skin of color, with input from patient stakeholders.	A future USC will need to be validated in an international population that represents a wide variety of skin types, colors, and racial and ethnic backgrounds.	80% Strongly Agreed 10% Agreed
Statement 4. A universal classification tool should assess baseline pigmentation and propensity for acquired skin pigmentation and texture changes.	A USC should be malleable and dynamic to account for changes in skin pigmentation over time.	66% Strongly Agreed 19% Agreed
Statement 5. Separate tools may be needed to assess acquired skin changes such as pigment alteration, erythema, and scarring.	A USC should be supplemented by measurement tools that accurately measure changes in skin parameters induced by chronic UV exposure, inflammation, and skin trauma.	52% Strongly Agreed 43% Agreed
Statement 6. A universal classification tool should use culturally sensitive terminology.	A USC should seek patient and stakeholder engagement to include culturally sensitive and accurate terminology.	85% Strongly Agreed 10% Agreed

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Conflicts of interest

Dr Callender has served as an investigator and/or received grants from AbbVie/Allergan, Avava, Eli Lilly, Eirion Therapeutics, Incyte, Janssen, L'Oreal, Lumanity, Pfizer, Prolenium, Regeneron, Symatase, Teoxane, and Veradermics; as a consultant or advisor for Almirall, Beiersdorf, Estee Lauder, Juene Aesthetics, L'Oreal, OrthoDerm, Oruka Therapeutics, and SkinCeuticals; and as a speaker for Aerolase, Arcutis, Beiersdorf, L'Oreal, and SkinBetter Science and has received royalties from UpToDate and Elsevier. Dr Alexis has received grants (funds to institution) from Leo, Amgen, Arcutis, Dermavant, Abbvie, Castle, Incyte and Genentech; has served on advisory board or as a consultant for Leo, Galderma, Pfizer, Sanofi-Regeneron, Dermavant, Beiersdorf, Ortho, L'Oreal, BMS, Bausch Health, UCB, Arcutis, Johnson & Johnson, Allergan, Almirall, Abbvie, Amgen, VisualDx, Eli Lilly, Swiss American, Incyte, Castle,

Apogee, Canfield, Alphy, Genentech, Boehringer Ingelheim, Symrise, Novartis, HairDays, Botanix, Alumis, Oruka, and Veradermics; served as a speaker for Regeneron, SANOFI-Genzyme, L'Oreal, Janssen, Aerolase, and Scientis; has received royalties from Springer, Wiley-Blackwell, Wolters Kluwer Health, and Elsevier; and has received equipment from Aerolase. Jaleel has received research grants from UCB, Skin of Color Society, Dermatology Foundation, Duke Strong Start Award, Duke Precisions Genomics Collaboratory Pilot Grant, and NIH BIRCIW from NIAMS K12AR084231. She has also received speaker honorarium from PeerView, consulting fees from Novartis, Eli Lilly, and travel funds to attend meetings from Skin of Color Society and IDEOM. She is also associated with the Skin of Color Society in a leadership or fiduciary role within other boards, societies, committees, or advocacy groups, whether compensated or not. Lim has served as an investigator for Incyte, La Roche Posay, Pfizer, and PCORI; a consultant for ISDIN, Beiersdorf, Ferndale, L'Oréal, Eli Lilly, Zerigo Health, Skinosis, Kenvue, Cantabria Labs, NAOS, and Boehringer Ingelheim; and a speaker on general educational session: La Roche-Posay, Cantabria labs, Pierre Fabre, NAOS, Uriage, Pfizer, ISDIN, and Clinuvel. Dr Taylor has served as the president of the American Academy of Dermatology; an investigator for Concert Pharmaceuticals, Allergan Aesthetics, Eli Lilly and Company, Croma-Pharma GmbH Austria, Pfizer Inc., and Sun Pharmaceutical Industries Ltd.; as a consultant for Arcutis, Beiersdorf, Inc., Bristol-Myers Squibb, Cara Therapeutics, Dior, Sanofi; on the advisory board for AbbVie, Armis Biopharma, Inc., Avita Medical, Beiersdorf, Inc., Biorez, Inc., Eli Lilly and Company, EPI Health, Evolus, Inc., Galderma Laboratories, LP, GloGetter, Inc, Hugel, Incyte, Johnson & Johnson Innovative Medicine, Medscape, Pfizer Inc., Piction Health, Scientis, UCB, Vichy Laboratories, Estee Lauder, L'Oreal USA Inc., and VeraDermics; and as a speaker or faculty educator for LearnSkin, Dermsquared, Catalyst Medical Education LLC, Medscape, MJH Life Sciences, HMP Global, Beiersdorf, Inc., and CME Outfitters. Burgess: Allergan/AbbVie, Aerolase, Merz Aesthetics, Revance Therapeutics, Prolenium, Janssen/J&J. Byrd is the inaugural recipient of the Skin of Color Society Career Development Award as well as the Society for Investigative Dermatology Freinkel Diversity Fellowship Award and a recipient of the Robert A. Winn Excellence in Clinical Trials Career Development Award (Winn CDA) funded by Bristol Myers Squibb Foundation (BMSF); served as a consultant

for SENTÉ, Inc. and Sonoma Biotherapeutics; and served on the advisory boards for Novartis and Merck. Dr Grimes has served as a clinical investigator and/or consultant for Galderma, Clinuvel, Board of Directors Clinuvel, L'Oreal, Johnson & Johnson, LaserOptek, Versicolor Technologies, MERCK, Dermibiont, VYNE Therapeutics, RAPT Therapeutics, Incyte, Pfizer, AbbVie/Allergan, SkinBetterScience, Klotho Skincare and Medscape, and Beiersdorf and has stock options in Versicolor Technologies. Dr McMichael has served as an investigator or received grants from Concert, Procter and Gamble, Incyte, and Revian; as a consultant for Arcutis, Almirall, Abbvie, Apogee, Biersdorf, Bristol Meyers Squibb, Concert, Eli Lilly, Galderma, Incyte, Kenvue, Janssen, Johnson & Johnson, L'oreal, Leo, Pelage, Pfizer, Procter and Gamble, Revian, Sanofi Regeneron, Sun Pharma, and UCB; and has received royalties from Informa/Taylor and Francis and McGraw Hill. Monthrope has received honoraria and served on speaker's bureaus and advisory boards for Arcutis, AbbVie, Bristol-Myers Squibb, Boehringer Ingelheim, Fresenius-kabi, Incyte, Janssen, Kenvue, L'Oreal, Sanofi, Sun Pharma, Novartis, and UCB. Dr Harvey has served as a consultant for Abbvie, Bristol-Myers Squibb, Janssen, Johnson & Johnson, L'Oreal, Cerave, and SkinCeuticals. Desai, Sarkar, Adriessen, Guenin, Brown, Cobb, Dlova, Heath, Okeke, Weiss, Yoo, and Akanji have no conflicts of interest to declare.

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