A provider global assessment quality measure for clinical practice for inflammatory skin disorders

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In our evolving health care system, dermatologists are increasingly being asked to prove the value of care they provide to patients with severe skin diseases. Current quality measures for inflammatory dermatoses have limited validity and feasibility. Through collaboration and a modified Delphi process, International Dermatology Outcome Measures and the American Academy of Dermatology sought to reach consensus on a valid and feasible provider-assessed global disease severity metric to be incorporated into a quality measure for inflammatory dermatoses. To inform the modified Delphi process, a review of the literature was performed, and data were collected on current provider-assessed global disease severity metrics. After literature review, 36 members of International Dermatology Outcome Measures and the American Academy of Dermatology participated in the modified Delphi process to reach consensus on features of the metric. Psoriasis, atopic dermatitis, and acne achieved overwhelming consensus for inflammatory dermatoses that could be measured in a global disease severity metric. Consensus was also reached on the use of a 5-point ordinal scale with descriptors provided through referenced electronic platforms. Expert development of quality measures incorporating this metric and its inclusion in data collection platforms are critical to enabling dermatologists to prove the value of care provided to patients with severe inflammatory dermatoses. (J Am Acad Dermatol 2019;80:823-8.)

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CAPSULE SUMMARY

- Current quality measures in dermatology have limited feasibility and validity for demonstrating value of care provided.
- Expert consensus was reached on a global severity metric for incorporation into a quality measure for inflammatory dermatoses.
- This effort will facilitate standardized data collection and may better demonstrate quality of care in dermatology.

Dermatologists are increasingly being asked to prove the value of care to payers, policy makers, and patients. Health care economists define value as quality of outcomes divided by cost of care.[1] However, current quality measures are limited in their ability to adequately capture disease burden, are not particularly feasible, and have not necessarily facilitated standardized measurement in clinical practice.[2] In the absence of robust quality measures, it is difficult to accurately capture how high-quality dermatologic care provides value and reduces disease burden. It is important not to penalize dermatologists who may require more expensive therapies to treat patients with more severe skin diseases.

An urgent call exists for the dermatology community to develop a disease severity metric to demonstrate the high-quality care delivered to patients with severe skin disease. This metric will be the first step toward a quality measure. Quality measures are tools that assess health care organizational quality and are classified as structure, process, or outcome measures.[3] Regulators and payers[4] have called for a global metric for skin disease severity. In addition, dermatology needs a metric that is feasible in clinical practice and used in published guidelines by professional dermatology organizations. This metric must be quantifiable, resembling a diagnostic test similar to the hemoglobin A1C. Importantly, it will eliminate a major barrier to demonstrating quality by providing a standardized metric across clinical practice.

In February 2018, International Dermatology Outcome Measures (IDEOM)[5] and the American Academy of Dermatology (AAD) assembled in New York to reach consensus on a provider-assessed global disease severity metric for incorporation into a quality measure for inflammatory skin diseases.

METHODS

In preparation for the consensus meeting, instrument developers and research fellows performed a review of the literature to identify existing provider-assessed global disease severity metrics used in inflammatory dermatoses.[6-15] Data on instrument domains, descriptors, scale design, and measurement properties were collected to inform the creation of a Delphi survey.[16]

After review of the literature, 36 members of IDEOM and the AAD convened for a meeting in New York to reach consensus on a provider-assessed global disease severity metric for inflammatory skin diseases. Collaborators included dermatologists, rheumatologist-dermatologists, pediatric dermatologists, quality measures experts, members of the AAD, a patient, and a research fellow (Table I). Members of the AAD included representatives of the Performance Measurement, Emerging Practice Models, Patient Safety and Quality, and Clinical Guidelines Committees. Collaborators chose to initially focus on a disease severity metric for inflammatory skin disease because of the great need and large impact for improving care among this patient population.[17] A provider-assessed metric was also chosen as the initial focus of the collaboration meeting, with a plan to address patient-reported outcome measures at future meetings.

In a modified, 2-round Delphi process,[16] collaborators voted on 2 foundational metric features: (1) inflammatory dermatoses to be included in the global measure and (2) quantification of the global assessment tool. Following each Delphi round, results were presented to the collaborators and in-person discussions were held to inform the subsequent Delphi round. All responses were collected using an anonymous, automated response system (ARS). Each step of the modified Delphi process is shown in Fig 1.

First, collaborators voted on which inflammatory dermatoses among 23 commonly seen by dermatology providers treating severe skin diseases should be included in the global disease severity metric. In the first Delphi round, collaborators were asked to respond to the question, "Should [inflammatory skin

Table I. Demographics of collaborators (N = 36)

Category	n (%)
Dermatologists	18 (50)
Rheumatologists/dermatologists	6 (17)
Pediatric dermatologists	3 (8)
Outcome measures experts	7 (19)
Patient	1 (3)
Research fellow	1 (3)

disease] be assessed with a global measure?" on a scale of 1 (strongly agree) to 5 (strongly disagree) for each inflammatory skin disease. Consensus was achieved when ≥90% of collaborators ("overwhelming consensus") voted "strongly agree" or "somewhat agree" on an item. After review and discussion of ARS results, collaborators were asked to priority rank 6 of the inflammatory skin diseases that had nearly reached overwhelming consensus (≥90%) in the first Delphi round (Fig 1). Priority ranking was done by listing, from highest to lowest priority, which of the 6 inflammatory skin diseases should be assessed with a global measure.

Second, collaborators voted on which of 4 potential scale types should be used to quantify the global disease severity metric. In the first Delphi round, collaborators were asked to respond to the question, "Should [scale option] be used to quantify the global disease severity metric?" on a scale of 1 (strongly agree) to 5 (strongly disagree) for each scale type. Consensus was achieved when a threshold of ≥70% of collaborators voted "strongly agree" or "somewhat agree" on an item. After review and discussion of the ARS results, collaborators were asked to vote on whether descriptors for the scale type should be provided through referenced electronic platforms (Fig 1).

RESULTS

Demographics of collaborators are shown in Table I. Voting results for inflammatory skin diseases to be included in the provider-assessed global disease severity metric are presented in Table II. Voting results for metric scale-type are presented in Table III.

Inflammatory dermatoses to be included in the global measure

Among 23 inflammatory dermatoses discussed, psoriasis, atopic dermatitis, and acne received overwhelming consensus (≥90%) in the first Delphi round for diseases that could be measured using a provider-assessed global disease severity metric (Table II). In the second Delphi round, hidradenitis suppurativa and rosacea achieved the highest priority ranking (Fig 2). Results of the second Delphi round will inform future direction for which inflammatory skin diseases, in addition to those that reached overwhelming consensus, may be incorporated in the global disease severity metric.

Quantification of the global assessment tool

In the first Delphi round, threshold consensus (≥70%) was reached on a 5-point ordinal scale (clear = 0, almost clear = 1, mild = 2, moderate = 3, and severe = 4) without descriptors. In the second Delphi round, collaborators unanimously voted (88% strongly agree, 12% somewhat agree) on the future development of detailed, disease-specific descriptors for the 5-point ordinal scale that would be made available through referenced electronic platforms (Table III). Such electronic platforms may include, but are not limited to, the AAD website, DataDerm (AAD, Rosemont, IL), and smartphone applications.

DISCUSSION

In the current state of health care, it is imperative that dermatologists collaborate to create a quality measure that reflects the value of patient care for inflammatory skin diseases. In a collaborative alliance between IDEOM and the AAD, consensus was reached on a provider-assessed 5-point (0-4) ordinal scale with electronically accessible descriptors for the measurement of global disease severity in psoriasis, atopic dermatitis, and acne. The identification of this metric is the first and necessary step toward the creation of a feasible and meaningful quality measure for inflammatory skin diseases.

In the expert opinion of 36 members of IDEOM and the AAD, psoriasis, atopic dermatitis, and acne achieved consensus as inflammatory skin diseases that could be measured using a global disease severity metric. These inflammatory dermatoses were favored because of their high prevalence, profound disease burden, ease of measurement, and availability of data to support measurement development.[17] Chronic scarring and dyspigmenting inflammatory skin diseases, such as lichen planopilaris and hidradenitis suppurativa, were considered less amenable for measurement in a global disease severity metric because of concerns regarding their responsiveness to change. Similarly, certain inflammatory skin diseases, such as alopecia areata and vitiligo, were considered less feasible for inclusion in a quality measure because of historical limitations in

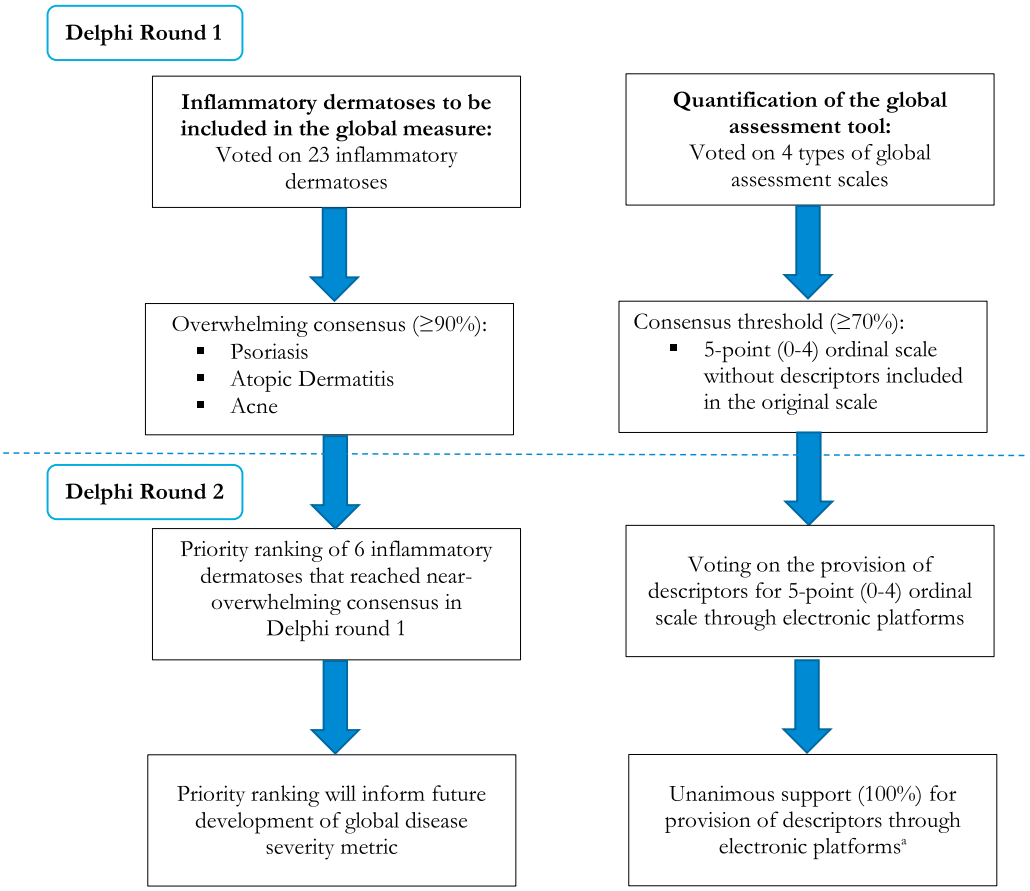

Fig 1. Flow diagram of the modified Delphi process. [a]Descriptors will not be included in the original 5-point provider global assessment tool. Instead, descriptors will be available through a referenced link to electronic platforms, such as the AAD website, DataDerm, or smartphone applications.

Table II. Modified Delphi round 1: Voting results for inflammatory skin diseases to be included in the provider-assessed global disease severity metric

	Inflammatory skin disease								
Response, n (%)	**Psoriasis***	**Atopic dermatitis***	**Acne***	**Hidradenitis suppurativa†**	**Rosacea†**	**Cutaneous lupus†**	**Vitiligo†**	**Urticaria†**	**Seborrheic dermatitis†**
Strongly agree	28 (80)	23 (66)	21 (62)	17 (49)	9 (27)	9 (26)	5 (15)	5 (15)	10 (32)
Somewhat agree	6 (17)	10 (28)	11 (32)	9 (26)	19 (58)	14 (41)	17 (50)	13 (40)	7 (22)
Neutral	0 (0)	1 (3)	1 (3)	5 (14)	3 (9)	8 (24)	7 (20)	6 (18)	11 (34)
Somewhat disagree	0 (0)	0 (0)	1 (3)	4 (11)	2 (6)	1 (3)	2 (6)	7 (21)	3 (9)
Strongly disagree	1 (3)	1 (3)	0 (0)	0 (0)	0 (0)	2 (6)	3 (9)	2 (6)	1 (3)
Total	35 (100)	35 (100)	34 (100)	35 (100)	33 (100)	34 (100)	34 (100)	33 (100)	32 (100)

*Inflammatory skin diseases that achieved overwhelming consensus (≥90%).
†Top 6 inflammatory skin diseases to achieve near-overwhelming consensus.

treatment options and therefore less experience in documenting severity.

IDEOM and the AAD members also achieved consensus on the use of a 5-point (0-4) ordinal scale with descriptors supplied through referenced electronic resources. Preliminary review of the literature supported the exclusion of certain scale type options from the modified Delphi process. For example, the visual analog scale was found to lack feasibility because of the variability in the size of discrimination[18] and therefore was not included as a scale option in the Delphi survey. Data in the literature also supported the use of a 5-point ordinal scale, as opposed to a 6-point scale, because of the tendency

Table III. Modified Delphi round 1: Voting results for global disease severity metric scale type

	Global assessment scale type			
Response, n (%)	5-point ordinal scale (0-4)* without descriptors	5-point ordinal scale (0-4)* with descriptors	10-point NRS	Dichotomous assessment of achieving clear/almost clear vs not
Strongly agree	16 (49)	15 (46)	5 (15)	0 (0)
Somewhat agree	9 (27)	6 (18)	2 (6)	2 (6)
Neutral	1 (3)	4 (12)	4 (12)	4 (11)
Somewhat disagree	5 (15)	7 (21)	12 (37)	8 (23)
Strongly disagree	2 (6)	1 (3)	10 (30)	21 (60)
Total	33 (100)	33 (100)	33 (100)	35 (100)

NRS, Numeric rating scale.
*Five-point ordinal scale ranges from 0 to 4 (0 = clear, 1 = almost clear, 2 = mild, 3 = moderate, and 4 = severe).

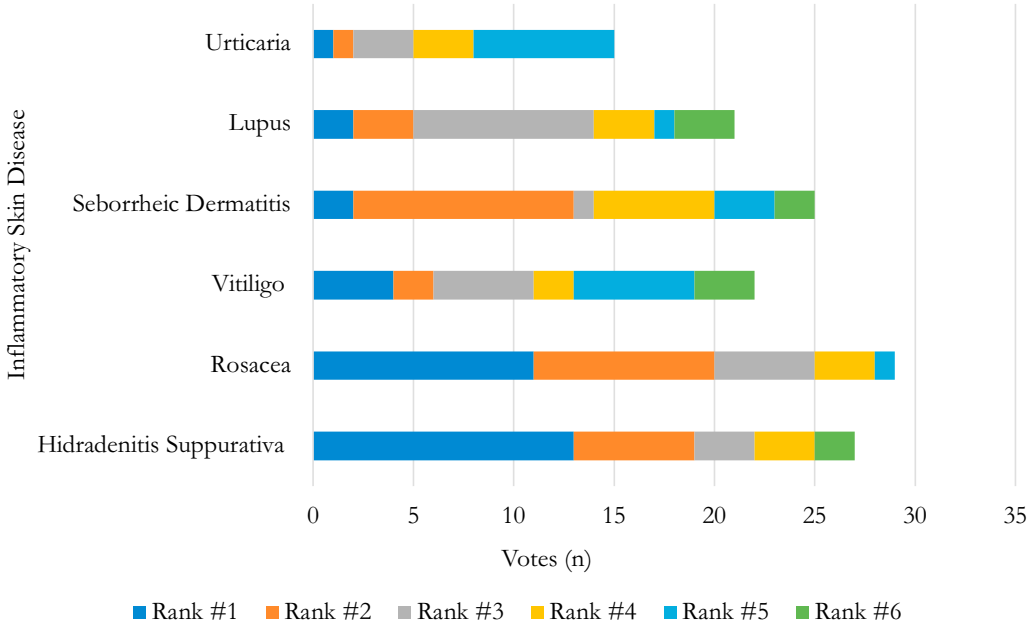

Fig 2. Modified Delphi round 2. Priority ranking results for inflammatory skin diseases to be included in the provider-assessed global disease severity metric.

of clinicians to converge on scores of 0-5 (clear to severe) in the 6-point scale.[19] In addition, the U.S. Food and Drug Administration prefers the use of a 5-point ordinal scale in clinical trials. Ultimately, collaborators reached consensus on providing validated descriptors through an electronic resource because this would facilitate the feasible use of a single 5-point scale across several inflammatory skin diseases.

Future collaboration between IDEOM and the AAD will focus on development of quality measures that incorporate, support, and incentivize the use of this proposed provider-global disease severity metric. Expert development and incorporation of such a metric into clinical practice is the first step in enabling dermatologists to demonstrate the value of the specialty, measure performance, and ultimately improve patient care.[1] In addition, integration of this measure into the electronic medical record will enable standardized data capture in clinical registries, such as the AAD's DataDerm, facilitating comparison across patient populations and continuity of care across providers.[20]

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