

Henry Ford Health System

Henry Ford Health System Scholarly Commons

Dermatology Articles

Dermatology

11-20-2020

Development of international clinical practice guidelines: benefits, limitations, and alternative forms of international collaboration

Murad Alam

Vishnu Harikumar

Bianca Y. Kang

Sarah A. Ibrahim

Nour Kibbi

See next page for additional authors

Follow this and additional works at: https://scholarlycommons.henryford.com/dermatology_articles

Authors

Murad Alam, Vishnu Harikumar, Bianca Y. Kang, Sarah A. Ibrahim, Nour Kibbi, Joshua L. Owen, Ian A. Maher, Todd V. Cartee, Joseph F. Sobanko, Kelly A. Reynolds, Diana Bolotin, Abigail H. Waldman, Kira Minkis, Brian Petersen, M. Laurin Council, Kishwer S. Nehal, Y. Gloria Xu, S. Brian Jiang, Ally-Khan Somani, Christopher K. Bichakjian, Conway C. Huang, Daniel B. Eisen, David M. Ozog, Erica H. Lee, Faramarz H. Samie, Isaac M. Neuhaus, Jeremy S. Bordeaux, Jordan V. Wang, Justin J. Leitenberger, Margaret W. Mann, Naomi Lawrence, Nathalie C. Zeitouni, Nicholas Golda, Ramona Behshad, Sherrif F. Ibrahim, Siegrid S. Yu, Thuzar M. Shin, William G. Stebbins, and Brandon Worley



Development of international clinical practice guidelines: benefits, limitations, and alternative forms of international collaboration

Murad Alam¹ · Vishnu Harikumar¹ · Bianca Y. Kang¹ · Sarah A. Ibrahim¹ · Nour Kibbi² · Joshua L. Owen^{1,32} · Ian A. Maher³ · Todd V. Cartee⁴ · Joseph F. Sobanko⁵ · Kelly A. Reynolds¹ · Diana Bolotin⁶ · Abigail H. Waldman⁷ · Kira Minkis⁸ · Brian Petersen⁹ · M. Laurin Council¹⁰ · Kishwer S. Nehal¹¹ · Y. Gloria Xu¹² · S. Brian Jiang¹³ · Ally-Khan Somani¹⁴ · Christopher K. Bichakjian¹⁵ · Conway C. Huang¹⁶ · Daniel B. Eisen¹⁷ · David M. Ozog¹⁸ · Erica H. Lee¹¹ · Faramarz H. Samie¹⁹ · Isaac M. Neuhaus²⁰ · Jeremy S. Bordeaux^{21,22} · Jordan V. Wang²³ · Justin J. Leitenberger²⁴ · Margaret W. Mann^{21,25} · Naomi Lawrence²⁶ · Nathalie C. Zeitouni²⁷ · Nicholas Golda²⁸ · Ramona Behshad²⁹ · Sherrif F. Ibrahim³⁰ · Siegrid S. Yu²⁰ · Thuzar M. Shin⁵ · William G. Stebbins³¹ · Brandon Worley¹

Received: 14 October 2020 / Revised: 30 October 2020 / Accepted: 3 November 2020
© Springer-Verlag GmbH Germany, part of Springer Nature 2020

Keywords Development · International · Clinical practice · Guidelines · Benefits · Limitations · Collaboration

Clinical practice guidelines convey evidence-based advice for the management of specific diseases or conditions. While recommendations in guidelines are adapted by clinicians to best serve individual patients, guidelines are also a tool for improving population health and broadly elevating the standard of care [1, 2] across a country or region. Indeed, some guidelines are even international in scope. The purpose of this review is to consider the particular benefits and limitations of international clinical practice guidelines. In addition, we consider the feasibility and utility of alternative forms of international collaboration among physicians that also lead to consensus documents regarding patient care.

Benefits of international guidelines

The most obvious advantage of international clinical practice guidelines is that they avoid duplication of effort. One set of guidelines applicable to all are efficient and relatively inexpensive to produce, and easy to disseminate widely. Such guidelines also minimize confusion among guidelines users, who do not have to select the most appropriate guidelines from a menu of documents addressing the same issue. At a content level, international guidelines may bring together evidence and wisdom from many quarters, culminating in balanced and comprehensive recommendations

that are founded on a breadth of salient information that was surfaced during the guidelines development process.

Challenges and limitations of international guidelines

Challenges inherent in the construction of international guidelines can slow and prevent their development. To begin with, standards of care frequently differ across countries and regions. Patient and provider expectations of appropriate care may also differ, with the latter influenced by variation in medical training in different areas. In particular, access to resources and therapies may be greater in wealthier countries than in those with widespread poverty or a two-tiered health care system. Residents of countries with single-payer health care systems may accept a greater degree of uniformity in clinical guidelines than those living in systems that are more fragmented and allow for greater individual variation in care approaches. Regulatory agencies that review new drugs or devices usually have a national or regional mandate, and medical products available in one country may still be awaiting testing or approval in another. Costs of therapies may also differ, so even approved treatments may be out of reach for most, and hence not first-line treatments, in some areas.

The risk of failure to reach consensus on international guidelines due to variations in local or regional standards of care is not theoretical, but in fact fairly common. For instance, development of cross-national and international guidelines for treatment of nonmelanoma skin cancers such

✉ Murad Alam
m-alam@northwestern.edu

as basal cell carcinoma is inhibited by the differential availability of complex surgical therapies, like Mohs micrographic surgery. Reduced availability and limited resources to pay for such therapies in certain countries leads to local standards of care that are more tilted toward destructive and topical treatments, or simple excision. Another instance of lack of international consensus occurred during a recent effort to develop guidelines for chronic hand eczema [3].

Given the many causes for variation in care delivery across countries, any international guidelines that are produced may need to be excessively vague, or circumscribed by exceptions and special considerations. This degree of complexity may impede the readability and usability of these guidelines.

Best practices in the development of international guidelines

Before starting work on international guidelines for a disease or condition, a feasibility assessment may be appropriate. Team members may thereby determine which countries or regions have sufficiently similar political and healthcare systems, patient and provider expectations, and national wealth to be part of the project. The scope of the guidelines may need to be well-defined, and potentially restricted, to minimize the need for exceptions for certain countries or regions. Some especially contentious treatment-related questions may be deferred, or left to the judgment of the individual practitioner. International guidelines may be most appropriate for very rare conditions or diseases, for which little is known and individual country-specific guidelines are impractical [4, 5].

While members of the guidelines group will not only be technical experts, but also collegial partners who work to resolve disagreements, constructive compromise will at times be elusive. A formal dispute resolution mechanism may therefore be helpful. Additionally, legal documents, such as memoranda of understanding may clarify each constituent group's right and responsibilities, including the conditions under which they may withdraw from the guidelines process. Designating co-chairs of the workgroup to represent each country or region can be an effective informal approach to increase solidarity and preempt excessive conflict. During executive sessions, co-chairs may come up with possible solutions that are later presented to the entire group for approval.

Alternatives to international guidelines

If international clinical practice guidelines are not feasible, other international collaborations can be convened to standardize and elevate care delivery worldwide. The purpose of such collaborations is to come together to promulgate rules and recommendations that are less subject to regional variation or local norms.

Working groups on nomenclature, definitions, diagnostic criteria, and measurement

For some diseases and conditions, nosology and nomenclature remain unsettled. For newly recognized conditions, even basic definitions, and the features that are always or sometimes present, may need to be clarified. Working groups can be assembled with members from many countries to better understand disease categories, and boundaries between types. Clinical manifestations of disease, classification and staging, or levels of severity, may need to be updated [6]. Examples of such collaborations abound, and can be regional or worldwide, and focused on one or a few diseases, or many. For instance, the International Statistical Classification of Diseases and Related Health Problems (ICD) is a classification list developed for international use under the auspices of the World Health Organization (WHO), and is currently on its 11th iteration [7]. So-called core outcome sets (COS), [8–12] minimum sets of outcomes to be included in clinical studies of a disease or condition, are developed and validated using diverse, international working groups that themselves loosely follow rules by other international groups [10, 13].

Preclinical consensus on etiology and pathogenesis of disease, or mechanism of action of diagnostic or therapeutic interventions

Potential cross-border collaborations can aim to clarify the pathogenesis of disease or mechanism of action of drugs, devices, and other therapies. Knowledge gained can facilitate drug discovery, or help redeploy existing therapies for new indications. During crises, including pandemics and other global emergencies that introduce new threats to patients, such collaborations can speed the dissemination of knowledge so that new findings can immediately be applied to patient care.

Safety guidance pertaining to novel therapeutics

New therapies may alleviate patient suffering, but they may also be associated with undetected adverse events. Phase 3 clinical testing leading to regulatory approval may be insufficient to detect uncommon and rare adverse events, which are only evident once a therapy is marketed and widely used. Pooling clinical experience, including safety information, across countries or regions can increase the ability to detect and quantify such risks [14]. Countries in which approvals have not yet been obtained may benefit from foreknowledge of safety limitations, labeling and indications may be suitably altered, and preventable morbidity and mortality may thus be avoided.

Planning of future clinical research

Clinical research can be time-consuming and resource-intensive. Ideally, the most important clinical quandaries should be investigated with well-designed, adequately powered studies that can resolve the question. International collaborations may be assembled to refine and delineate important questions, and design appropriate clinical trials. In addition, centers around the world may participate in enrolling patients, even if local IRBs retain their purview to oversee safety. Large, international trials, while difficult to manage, can be highly powered and produce results that are generalizable to many populations, including different ethnicities [15]. For rare or uncommon diseases or conditions, international recruitment may be necessary to find enough willing participants.

Summary

In conclusion, there are several approaches to harnessing the diversity and depth of knowledge from many countries to improve patient care. Under certain circumstances, such as when there is limited variation in resource availability and the standard of care, development of a complete set of international clinical practice guidelines may be feasible. Otherwise, international collaborations may be more focused, restricted to developing consensus on issues such as nomenclature, diagnostic criteria, pathogenesis of disease, outcomes measurement, safety of therapies, and needs assessment.

Compliance with ethical standards

Conflicts of interest No author has any conflict of interest.


References

- Alam M, Billingsley EM, Storrs PA (2020) Skin cancer screening is the standard of care and should be made more accessible to patients. *Arch Dermatol Res* 312(3):229–230
- Alam M, Worley B (2020) Buffered lidocaine: The standard of care for cutaneous procedures. *J Am Acad Dermatol* 83(1):166–167. <https://doi.org/10.1016/j.jaad.2020.01.017>
- Silverberg JI, Guttman-Yassky E, Agner T, Bissonnette R, Cohen DE, Simpson E, Wollenberg A, Thyssen JP (2020) Chronic hand eczema guidelines from an expert panel of the international eczema council. *Dermatitis*. <https://doi.org/10.1097/DER.0000000000000659>
- Owen JL, Kibbi N, Worley B, Kelm RC, Wang JV, Barker CA, Behshad R, Bichakjian CK, Bolotin D, Bordeaux JS, Bradshaw SH, Cartee TV, Chandra S, Cho NL, Choi JN, Council ML, Demirci H, Eisen DB, Esmaeli B, Golda N, Huang CC, Ibrahim SF, Jiang SB, Kim J, Kuzel TM, Lai SY, Lawrence N, Lee EH, Leitenberger JJ, Maher IA, Mann MW, Minkis K, Mittal BB, Nehal KS, Neuhaus IM, Ozog DM, Petersen B, Rotemberg V, Samant S, Samie FH, Servaes S, Shields CL, Shin TM, Sobanko JF, Somani AK, Stebbins WG, Thomas JR, Thomas VD, Tse DT, Waldman AH, Wong MK, Xu YG, Yu SS, Zeitouni NC, Ramsay T, Reynolds KA, Poon E, Alam M (2019) Sebaceous carcinoma: evidence-based clinical practice guidelines. *Lancet Oncol* 20(12):e699–e714
- Worley B, Owen JL, Barker CA, Behshad R, Bichakjian CK, Bolotin D, Bordeaux JS, Bradshaw S, Cartee TV, Chandra S, Cho N, Choi J, Council ML, Eisen DB, Golda N, Huang CC, Ibrahim SF, Jiang SIB, Kim J, Lacutoure M, Lawrence N, Lee EH, Leitenberger JJ, Maher IA, Mann M, Minkis K, Mittal B, Nehal KS, Neuhaus I, Ozog DM, Petersen B, Samie F, Shin TM, Sobanko JF, Somani AK, Stebbins WG, Thomas JR, Thomas V, Tse D, Waldman A, Xu YG, Yu SS, Zeitouni NC, Ramsay T, Poon E, Murad A (2019) Evidence-based clinical practice guidelines for microcystic adnexal carcinoma: informed by a systematic review. *JAMA Dermatol* 155(9):1059–1068
- Lublin FD, Reingold SC, Cohen JA, Cutter GR, Sørensen PS, Thompson AJ, Wolinsky JS, Balcer LJ, Banwell B, Barkhof F, Bebo B Jr, Calabresi PA, Clanet M, Comi G, Fox RJ, Freedman MS, Goodman AD, Inglesse M, Kappos L, Kieseier BC, Lincoln JA, Lubetzki C, Miller AE, Montalban X, O'Connor PW, Petkau J, Pozzilli C, Rudick RA, Sormani MP, Stüve O, Waubant E, Polman CH (2014) Defining the clinical course of multiple sclerosis: the 2013 revisions. *Neurology* 83(3):278–286
- Lancet T (2018) ICD-11: a brave attempt at classifying a new world. *Lancet* 391(10139):2476
- Reynolds KA, Schlessinger DI, Vasic J, Iyengar S, Qaseem Y, Behshad R, DeHoratius DM, Denes P, Drucker AM, Dzubow LM, Etzkorn JR, Harwood C, Kim JYS, Lee EH, Lissner GS, Marghoob AA, Matin RN, Mattox A, Mittal BB, Thomas JR, Zhou XA, Zloty D, Schmitt J, Kirkham J, Poon E, Sobanko JF, Cartee TV, Maher IA, Alam M (2020) Core outcome set for actinic keratosis clinical trials. *JAMA Dermatol* 156(3):326–333
- Prinsen CAC, Spuls PI, Kottner J, Thomas KS, Apfelbacher C, Chalmers JR, Deckert S, Furue M, Gerbens L, Kirkham J, Simpson EL, Alam M, Balzer K, Beeckman D, Eleftheriadou V, Ezzedine K, Horbach SER, Ingram JR, Layton AM, Weller K, Wild T, Wolkerstorfer A, Williams HC, Schmitt J (2019) Navigating the landscape of core outcome set development in dermatology. *J Am Acad Dermatol* 81(1):297–305
- Kottner J, Jacobi L, Hahnel E, Alam M, Balzer K, Beeckman D, Busard C, Chalmers J, Deckert S, Eleftheriadou V, Furlan K, Horbach SER, Kirkham J, Nast A, Spuls P, Thiboutot D, Thorlacius L, Weller K, Williams HC, Schmitt J, International Cochrane Skin Group Core Outcome Set Initiative (CSG-COUSIN) group (2018) Core outcome sets in dermatology: report from the second meeting of the international cochrane skin group core outcome set initiative. *Br J Dermatol* 178(4):e279–e285. <https://doi.org/10.1111/bjd.16324> ([Epub 2018 Feb 14])
- Schlessinger DI, Iyengar S, Yanes AF, Lazaroff JM, Godinez-Puig V, Chen BR, Kurta AO, Henley JK, Chiren SG, Furlan KC, Schmitt J, Deckert S, Poon E, Sobanko JF, Cartee TV, Alam M, Maher IA (2017) Development of a core outcome set for clinical trials in basal cell carcinoma: study protocol for a systematic review of the literature and identification of a core outcome set using a Delphi survey. *Trials* 18(1):490. <https://doi.org/10.1186/s13063-017-2244-5>
- Schlessinger DI, Iyengar S, Yanes AF, Chiren SG, Godinez-Puig V, Chen BR, Kurta AO, Schmitt J, Deckert S, Furlan KC, Poon E, Cartee TV, Maher IA, Alam M, Sobanko JF (2017) Development of a core outcome set for clinical trials in squamous cell carcinoma: study protocol for a systematic review of the literature and identification of a core outcome set using a Delphi survey. *Trials* 18(1):321. <https://doi.org/10.1186/s13063-017-2069-2>
- Prinsen CA, Vohra S, Rose MR, King-Jones S, Ishaque S, Bhaloo Z, Adams D, Terwee CB (2014) Core outcome measures in effectiveness trials (COMET) initiative: protocol for an international Delphi study to achieve consensus on how

- to select outcome measurement instruments for outcomes included in a 'core outcome set.' *Trials* 25(15):247. <https://doi.org/10.1186/1745-6215-15-247>
14. Belknap R, Holland D, Feng PJ, Millet JP, Caylà JA, Martinson NA, Wright A, Chen MP, Moro RN, Scott NA, Arevalo B, Miró JM, Villarino ME, Weiner M, Borisov AS, TB Trials Consortium iAdhere Study Team (2017) Self-administered versus directly observed once-weekly isoniazid and rifapentine treatment of latent tuberculosis infection: a randomized trial. *Ann Intern Med* 167(10):689–697
 15. Gabay C, Emery P, van Vollenhoven R, Dikranian A, Alten R, Pavelka K, Klearman M, Musselman D, Agarwal S, Green J, Kavanaugh A, ADACTA Study Investigators (2013) Tocilizumab monotherapy versus adalimumab monotherapy for treatment of rheumatoid arthritis (ADACTA): a randomised, double-blind, controlled phase 4 trial. *Lancet* 381(9877):1541–1550

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Affiliations

Murad Alam¹  · **Vishnu Harikumar**¹ · **Bianca Y. Kang**¹ · **Sarah A. Ibrahim**¹ · **Nour Kibbi**² · **Joshua L. Owen**^{1,32} · **Ian A. Maher**³ · **Todd V. Cartee**⁴ · **Joseph F. Sobanko**⁵ · **Kelly A. Reynolds**¹ · **Diana Bolotin**⁶ · **Abigail H. Waldman**⁷ · **Kira Minkis**⁸ · **Brian Petersen**⁹ · **M. Laurin Council**¹⁰ · **Kishwer S. Nehal**¹¹ · **Y. Gloria Xu**¹² · **S. Brian Jiang**¹³ · **Ally-Khan Somani**¹⁴ · **Christopher K. Bichakjian**¹⁵ · **Conway C. Huang**¹⁶ · **Daniel B. Eisen**¹⁷ · **David M. Ozog**¹⁸ · **Erica H. Lee**¹¹ · **Faramarz H. Samie**¹⁹ · **Isaac M. Neuhaus**²⁰ · **Jeremy S. Bordeaux**^{21,22} · **Jordan V. Wang**²³ · **Justin J. Leitenberger**²⁴ · **Margaret W. Mann**^{21,25} · **Naomi Lawrence**²⁶ · **Nathalie C. Zeitouni**²⁷ · **Nicholas Golda**²⁸ · **Ramona Behshad**²⁹ · **Sherrif F. Ibrahim**³⁰ · **Siegrid S. Yu**²⁰ · **Thuzar M. Shin**⁵ · **William G. Stebbins**³¹ · **Brandon Worley**¹¹
Department of Dermatology, Feinberg School of Medicine, Northwestern University, 676 N St Clair St, Suite 1600, Chicago, IL 60611, USA

² Department of Dermatology, Stanford University School of Medicine, Redwood, CA, USA

³ Department of Dermatology, University of Minnesota, Minneapolis, MN, USA

⁴ Department of Dermatology, Penn State College of Medicine, Hershey, PA, USA

⁵ Department of Dermatology, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

⁶ Section of Dermatology, The University of Chicago, Chicago, IL, USA

⁷ Brigham and Women's Hospital Department of Dermatology, Harvard Medical School, Boston, MA, USA

⁸ Department of Dermatology, Weill-Cornell Medical College, New York, NY, USA

⁹ Department of Dermatology, Colorado Permanente Medical Group, Denver, CO, USA

¹⁰ Division of Dermatology, Center for Dermatologic and Cosmetic Surgery, Washington University in Saint Louis, Saint Louis, MO, USA

¹¹ Dermatology Service, Memorial Sloan Kettering Cancer Center, New York, NY, USA

¹² Department of Dermatology, University of Wisconsin-Madison, Madison, WI, USA

¹³ Department of Dermatology, University of California San Diego, San Diego, CA, USA

¹⁴ Department of Dermatology, Indiana University School of Medicine, Indianapolis, IN, USA

¹⁵ Department of Dermatology, University of Michigan, Ann Arbor, MI, USA

¹⁶ Department of Dermatology, University of Alabama, Birmingham, AL, USA

¹⁷ Department of Dermatology, University of California Davis, Sacramento, CA, USA

¹⁸ Department of Dermatology, Henry Ford Hospital, Detroit, MI, USA

¹⁹ Department of Dermatology, Columbia University Irving Medical Center, New York, NY, USA

²⁰ Department of Dermatology, University of California At San Francisco, San Francisco, CA, USA

²¹ Department of Dermatology, Case Western Reserve University School of Medicine, Cleveland, OH, USA

²² Department of Dermatology, University Hospitals Cleveland Medical Center, Cleveland, OH, USA

²³ Laser and Skin Surgery Center of New York, New York, NY, USA

²⁴ Department of Dermatology, Oregon Health and Science University, Portland, OR, USA

²⁵ Innova Dermatology, Hendersonville, TN, USA

²⁶ Division of Dermatology, Section of Procedural Dermatology, Cooper Hospital, Rowan University, Camden, NJ, USA

²⁷ Department of Dermatology, University of Arizona, Phoenix, AZ, USA

²⁸ Department of Dermatology, University of Missouri School of Medicine, Columbia, MO, USA

²⁹ Department of Dermatology, Saint Louis University School of Medicine, Saint Louis, MO, USA

³⁰ Department of Dermatology, University of Rochester, Rochester, NY, USA

³¹ Department of Dermatology, Vanderbilt University Medical Center, Nashville, TN, USA

³² South Texas Skin Cancer Center, San Antonio, TX, USA