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Title: OMERACT 2020: A Virtual (R)evolution

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OMERACT (1) planned its biannual consensus conference for April 2020 in Colorado Springs and chose a venue that would accommodate our break-out meeting style as well as using technology to allow us to experiment with online presentations, discussions and consensus building to enable broader engagement, an exciting step forward for OMERACT conferences. Unfortunately like many other organizations, the COVID 19 pandemic interfered with the plans. However, realizing that there had been a significant amount of work done by the various Working Groups preparing for the face-to-face meeting there was a need to meet the ongoing enthusiasm of effort, time and commitment. OMERACT boasts a large group of skilled and knowledgeable patients who work as partners within its research endeavour. Protecting the health, safety and well-being of our attendees and particularly the patients, many of whom are immune compromised, was paramount and served as one of the reasons for the decision to postpone the face-to-face conference for the first time in our 28-year history until May 2nd – 7th, 2022. But in lieu of that, a new idea was born: the development of Virtual OMERACT 2020.

What OMERACT does

OMERACT supports the development of Core Outcome Sets (2); that is, a minimum set of domains and instruments that should be measured in all clinical trials in the target disease/intervention. OMERACT's process divides the task of creating a Core Outcome Set into two sequential components: first determining what needs to be measured (Core Domain Sets) (3) and then deciding how to measure each of the domains, also referred to as 'instrument selection' (4). This in turn leads to a Core Outcome Measurement Set, when there is at least one outcome measurement instrument identified for each domain.

The hub of OMERACT activity takes place in the Working Groups, defined by a disease or intervention they are focused on, or the methods they are advancing, and made up of patients, researchers, clinicians, regulators and industry attendees from around the globe. We have 35 active Working Groups in OMERACT (5).

This is exacting work and is overseen by detailed methodology developed by OMERACT to ensure consistency in each evolving work stream. OMERACT was one of the first groups to advance the need for evidence-based decision making on instruments starting in 1992. Presently, the work is guided by the definitions and processes within the OMERACT Filter, now version 2.2(6). Still based on the need for Truth, Discrimination and Feasibility in outcome measurement instruments in order to represent our core domains, this evidence-based decision-making process has been evolving over the last ten years to provide solid, rigorous and transparent processes for OMERACT decision making (7). Communication tools like "the ONION" or the Summary of Measurement Properties Table "the SOMP" are becoming one-page summaries of years of effort of a given Working Group. OMERACT is also committed to working with other similar groups interested in evidence on the quality of outcome measurement instruments to maximize the usefulness and usability of findings, and collaborations on advances in methods – groups like Cochrane (8), CMTP (9), COMET (10), COSMIN (11), EMA

(12), FDA (13), GRADE (14), the RedHat collaboration (15), and SONG (16). The 'OMERACT Way, though developed in rheumatology, has found a comfortable home in other disease groups as well.

OMERACTers are guided by a set of guiding principles called the OMERACT 8 C's Figure 1 (17). These principles are a broad philosophy that encompass the beliefs, values and Spirit of OMERACT and guide the organization and working groups.

Figure 1. Sprit of OMERACT: The OMERACT 8C's

Historically, the OMERACT community has come together at our face-to-face meetings to reach consensus on proposed Core Domain Set and Instruments. Given its large number of Working Groups and its international nature, OMERACT started evaluating new and innovative ways of working using emerging technology in 2010. Initial concepts included the development of an OMERACT University and full virtual meetings with avatars moving between rooms. In 2016, planning started for a 'prototype' hybrid virtual meeting to be held in 2018 (18). Although it wasn't realized at the time, this virtual session was laying the foundation for the herculean effort of moving the entire conference to a virtual platform within 6 months.

Virtual OMERACT 2020

The Working Groups of the OMERACT community have been working together intercontinentally virtually between meetings for a very long time. So, asking them to continue to participate online was not an issue. The challenge was recreating the "feel" of the biennial face-to-face meetings with robust discussions, breakout and plenary sessions, detailed information sharing, and voting.

The OMERACT Handbook Group was tasked with planning and testing the details of the virtual conference. Challenges included the need to have up to 10 breakout groups, with as many as 200+ participants in the main session; the virtual platforms selected had to be able to handle the demand; and the Working Groups needed to ensure their materials were understandable for a variety of a large stakeholders. To tackle the planning, we broke our needs into 4 broad categories:

i. Pre-Workshop/SIG planning
ii. Technology Needs
iii. Workshops – Breakouts & Plenary Activities
iv. Special Interest Group Sessions

Virtual OMERACT 2020 Planning	**Considerations**	**Solutions**
Pre-Workshop/SIG planning	Length of Conference	Change the meeting format to individual meetings starting June 29th ending December 17th, 2020.
	Time zones	All Workshops were scheduled at 2 different times to allow for maximum participation across continents and stakeholder groups
	Stakeholder Representation	Message the OMERACT mailing list inviting them to sessions. Engaging the OMERACT network to advertise the meeting on our behalf.
	Cost	OMERACT would use current technology and staff to run the meeting virtually. Registration fees were not charged to attend

Technology Needs	Virtual Platform	GoToMeeting was initially trialed to manage the 200+ participants and but a switch to Zoom was made for ease of use
	OMERACT Website	All working group information was uploaded to the OMERACT Working group websites for participants to access.
	Participant Registration	All invitations included a calendar of events and a link to register to track number of participants for all sessions
	Breakout	GoToMeeting was initially trialed to manage the breakouts but the ability to allocate and move participants to the breakout rooms was limiting. The transition to Zoom allowed for these parts of the meeting to flow seamlessly.
	Voting	OMERACT developed an app for voting during the session. This was not the best format for voting as it involved pivoting between apps. We decided to simplify this by using the Zoom polling option for votes.
	In meeting chat	Chat was offered as an option in meeting to contribute. Working Group leaders allocated chat moderators
	Technology Support	Offered weekly technology Q&A's so participants could dial in and test out software and ask any questions about

		the use of technology leading to the sessions
Workshops – Breakouts & Plenary Activities	Pre-reading Materials	Develop lay summaries, white boards & discussion boards for more participant interaction. Discussion boards ran for 2 weeks and were monitored by the working group.
	Plenary Presentations	Presentation time had to be minimized to reduce Zoom fatigue all Workshops were limited to a 20-minute plenary presentation
	Breakouts	All breakouts needed an identified facilitator, content expert & reporter (more details on facilitation follows). Participants were registered via a Zoom link and allocated to breakouts to ensure a fair distribution across stakeholder groups. Initially discussions were scheduled for 20 minutes and in our final Workshops we shifted the timings to allow for 40 minutes discussion in breakouts
	Report back	Initially each breakout group provided a report back, this process added a significant amount of time to the meeting, and it was later decided each breakout group would be asked for 1 key point to be presented from their groups
	Discussions	Timing was adjusted to allow for more discussion following report back. This allowed leaders to address issues before the vote.

	Votes	Votes were separated between patient's research partners and all other stakeholder groups
Special Interest Group Sessions	Pre-reading Materials	Develop lay summaries and some groups used white boards for dissemination of materials
	Time zones	Groups were asked to schedule their sessions at 3pm EST in order to accommodate the widest range of time zones.

Virtual facilitation

As with any OMERACT conference, preparation is key and without people meeting in person it was even more crucial to pre-plan. We therefore enhanced the training program for facilitation that had been initiated at OMERACT 2018 and the consensus-building process in plenary and breakout groups. (19)

Methodologically strong and consensus-seeking facilitators are needed to ensure online meeting success. These facilitators were asked to agree to review the blog on facilitation from Session Labs (20), read the OMERACT Facilitators Guide & OMERACT Virtual Facilitation PowerPoint and review the workshop materials provided by Working Groups. A clear step-by-step approach was the best way to engage participants online and ensure OMERACT was getting feedback from all participants. This included background materials from the Working Group leaders, completed slide sets to follow, a clear agenda with timing, as well as a reporter & content expert identified in advance.

Feedback from our post-meeting survey for each of the virtual Workshops showed very positive attendee ratings. Participants were asked to rate the facilitation of breakout sessions out of 5 stars, and none were rated below 4 stars.

The focus of the OMERACT2020 Methodology Workshop "*Improving Instrument Selection: Lessons for OMERACT from Imaging"* was on the experience we had gained from examining the OMERACT processes applied to imaging instruments such as an ultrasound, CT, MRI or Xray score. These instruments from the imaging field brought new challenges to a process that was largely being used for clinician-observed or patient-reported outcomes. But rather than leading to a different Filter process, OMERACT gained insights from the imaging outcome instruments that could help improve the processes for all OMERACT instruments. Briefly, these lessons were: (1) detailed, and we mean detailed, *definitions of what you need to measure* are the

foundation for instrument selection; (2) identifying and addressing *sources of variability* in measurement – things that can impact the score obtained, be it the calibration of the imaging device, the reader or the variability in the administration of a questionnaire. Finally, the third lesson (3) was that the *OMERACT Filter Instrument Selection Algorithm* (OFISA) process, tweaked slightly to rely on the domain definitions, and address the sources of variability, can be applied to all outcome instruments, be it a questionnaire, or the score from an imaging technique. This revised OFISA has been updated in Filter Version 2.2.

In preparation for the Imaging workshop, a Patient Research Partner (PRP) Task Force on Imaging Outcomes was established with the goal of developing material to improve the experience and expertise of PRPs in considering these rather technical and method-oriented materials. We subsequently realized that the materials were useful for all newcomers to this field and became the mandatory reading background materials in the form of infographic cards and whiteboards for each of the three lessons. These materials were critical to ensure that all those attending the workshop, regardless of their stakeholder group or prior experience had the required level of understanding before their participation at the workshop. The OMERACT Handbook chapters on Domain and Instrument Selection along with the accompanying workbooks have been revised to incorporate the lessons described above.

Across the 21 virtual sessions held as OMERACT 2020, 557 participants attended from 55 different countries with representation from over 100 patient research partners (see Figure 2).

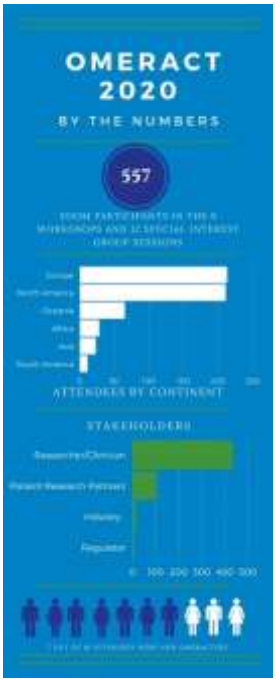

Figure 2: OMERACT 2020 by the Numbers

Discussion

In 2020, despite a world wide pandemic, OMERACT was able to quickly and successfully adapt to the new reality and move to an online conference in order to capture the momentum and work of the working groups. There are some drawbacks of a virtual meeting, especially impacting on the first three C's in Figure 1: Consensus, Communication and Collaboration, and the overlap/interaction between these three principles. Consensus, where substantive differences of opinion exist is far more difficult to achieve virtually; relationship-building is a major feature of the in-person OMERACT meetings and this (as well as the much greater peer pressure) plays a key role in finding middle ground. Communication is enhanced when individuals have had time to get to know each other over meals and informal discussions, apart from potential problems with the quality of the sound and video. Collaboration virtually is challenging when trying to link individuals in different time zones, and -the solution adopted for workshops was to hold two sessions 8 hours apart. This resulted in successful participation from the Americas, Africa, Australasia and Europe; however this meant that different dynamics developed in some pairs of Zoom calls that would not have occurred if all participants were in the same synchronous conversation.

Additional information, session recordings, and publications by Working Groups can also be found on the OMERACT website www.omeract.org. Also available is the OMERACT Handbook, which contains both methodological and organizational information, has encouraged participants to become more engaged with the process by explaining various OMERACT procedures and practices. The OMERACT Handbook is available at www.omeract.org/omeract-way/ and will continue to provide a major reference resource for all those interested in outcome measure development. The Handbook can be considered a "living" document to be updated as new methodology evidence comes to light and clinicians and researchers involved in OMERACT activities should be aware that they need to monitor for these periodic updates.

OMERACT 2020 Sessions

Virtual Methodology Workshops: Improving Instrument Selection: Lessons for OMERACT from Imaging and Composite Outcomes Workshop: Developing Response Criteria for ANCA-Associated Vasculitis

Virtual Workshops: Flares in OA, Shared Decision Making & Glucocorticoid Adverse Events

Virtual Special Interest Group Sessions: Contextual Factors, CNO, CPPD (Calcium Pyrophosphate Deposition), Equity, Patient Outcomes in Longitudinal Studies, Patient Preferences in RCTs, Remission in RA (Patient Perspective), Serum urate biomarker, Systemic Sclerosis - Raynaud's, MRI Taskforce, JAMRI, Ultrasound

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(Appendix 1)

REFERENCES

1. OMERACT (Outcome Measures in Rheumatology). www.omeract.org
2. Boers M, Beaton DE, Shea BJ, Maxwell LJ, Bartlett SJ, Bingham CO, et al. OMERACT Filter 2.1: Elaboration of the Conceptual Framework for Outcome Measurement in Health Intervention Studies. J Rheumatol. 2019 Aug 1;46(8):1021
3. Maxwell LJ, Beaton DE, Shea BJ, Wells GA, Boers M, Grosskleg S, et al. Core Domain Set Selection According to OMERACT Filter 2.1: The OMERACT Methodology. J Rheumatol. 2019 Aug 1;46(8):1014
4. Beaton D, Maxwell L, Shea B, et al. Instrument Selection Using the OMERACT Filter 2.1: The OMERACT Methodology. J Rheumatol 2019; 46: 1028
5. OMERACT Website: Working Groups Available at: https://omeract.org/working-groups/, 2021

6. Beaton D, Maxwell L, Grosskleg S, Shea B, Tugwell B (editors). The OMERACT Handbook Version 2.1 [updated March 2021]. OMERACT. Available from https://omeract.org/handbook/

7. OMERACT Handbook. Chapter 5: Instrument selection for core outcome measurement sets: Available at: https://omeracthandbook.org/handbook; 2019.

8. Cochrane [Internet. Accessed March 24, 2021] Available from: https://www.cochrane.org/

9. CMTP [Internet. Accessed March 24, 2021] Available from: http://www.cmtpnet.org/

10. COMET [Internet. Accessed March 24, 2021] Available from: http://www.comet-initiative.org

11. COSMIN [Internet. Accessed March 24, 2021] Available from: https://www.cosmin.nl/

12. EMA [Internet. Accessed March 24, 2021] Available from: https://www.ema.europa.eu/en

13. FDA [Internet. Accessed March 24, 2021] Available from: https://www.fda.gov/

14. GRADE [Internet. Accessed March 24, 2021] Available from: https://www.gradeworkinggroup.org/

15. the RedHat collaboration [Internet. Accessed March 24, 2021] Available from: https://www.comet-initiative.org/About/Collaborations

16. SONG [Internet. Accessed March 24, 2021] Available from: https://songinitiative.org/

17. Caroline A. Flurey, John R. Kirwan, Phillip Hadridge, Pamela Richards, Shawna Grosskleg and Peter S. Tugwell The Spirit of OMERACT: Q Methodology Analysis of Conference Characteristics Valued by Delegates. J Rheumatol 2015, 42 (10) 1982-1992

18. Guillemin, F., et al., Developing a Preliminary Definition and Domains of Flare in Knee and Hip Osteoarthritis (OA): Consensus Building of the Flare-in-OA OMERACT Group. J Rheumatol, 2019. 46(9): p. 1188-1191.

19. Humphrey-Murto, et al., Consensus Building in OMERACT: Recommendations for Use of the Delphi for Core Outcome Set Development J Rheumatol 2019; 46:1041–6

20. Essential Facilitation Skills for an Effective Facilitator Session Labs [Internet. Accessed March 24, 2021] Available from: https://www.sessionlab.com/blog/facilitation-skills/

APPENDIX 1

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EDITH BROWN UK

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Muhammad Asim Khan USA

Marleen van de Sande Netherlands

Maria Llop Spain

Marco Garrido-Cumbrera Spain

Maureen Dubreuil USA

Helena Marzo-Ortega UK

Michael Nissen Switzerland

Mikhail Protopopov Germany

Mirjam de Vries Sweden

Marina Magrey USA

Mireia Moreno Spain

Marcelo Pinheiro Brasil

Victoria Navarro Compán Spain

Natalia de Peyrecave France

Nelly Ziadé Lebanon

Nurullah Akkoc Turkey

Pedro Machado Uk

Paul Hillman UK

Yu Heng Kwan Singapore

Fernando Pimentel-Santos Portugal

Praveena Chiowchanwisawakit Thailand

Raquel Almodovar Spain

Roberta Ramonda ITALY

Robert Yuen USA

GRIGORIOS SAKELLARIOU Greece

Sebastián Ibáñez Chile

Seung Cheol Shim South Korea

Simon Stebbings New Zealand

Cristina Fernández-Carballido SPAIN

Salih Ozgocmen Turkey

Sergio Schwartzman USA

Sjef van der Linden Belgium

Tore K Kvien Norway

Tim Warburton UK

Torsten Diekhoff Germany

Ulrich Weber Switzerland

Warren Fong Singapore

Xenofon Baraliakos Germany

Aishwarya Gopal India

Alberta Hoi Australia

Aman Sharma India

Vinicius Antao USA

Anthony Sammel Australia

Karima Becetti Qatar

Bryan Poole USA

Carlee Ruediger Australia

Chetan Mukhtyar UK

Jiehan Chong Uk

Cindy Copenhaver USA

Claire Owen Australia

David Liew Australia

David Carrott Uk

Dianne Wloch Uk

Dongze WU China

Elena Gkrouzman USA

Elizabeth Hoon Australia

Diyu Fisher USA

Nilasha Ghosh USA

Helen Yu Australia

Huai Leng Pisaniello Australia

Janak de Zoysa New Zealand

Jose A.P. da Silva Portugal

Jenny Christensson Sweden

Jessica Leung Australia

Lara Chapman Uk

Linda Yue USA

Max Yates UK

Marco A Alba Spain

Michael George USA

Michelle Petri USA

Onyeka Illoh USA

Rani Sinnathurai Australia

Rachel Black Australia

Rodica Olteanu Romania

IRENE PITSILLIDOU CYPRUS

Shelby Oppermann USA

Susan Sparks USA

Sue Lester Australia

Tiffany Gill Australia

Terry Lowdon Uk

Vivian Bykerk USA

Yevgeniy Popov USA

Anne Ashford Australia

Anne Priscille Trouvin France

Bob Shakespeare UK

Reuben Escorpizo USA

Charmaine Jones Canada

Linda Li Canada

Rashida Pickford UK

Souzi Makri Greece

Stefan Hager Germany

Ann impens USA

Line Alepin

Alexis Ogdie USA

Ayano Kelly Australia

Jennifer Barton USA

Peter brooks Australia

Christine Lindsay USA

Claire Barber Canada

Charlotte Bekker Netherlands

Charmaine Melburn Canada

Ernest Choy UK

Christina Macleod Uk

Corrie Billedeau canada

Cristiano Campanholo	Brasil
Davide Mazzoni	Italy
Jeni Sutton	USA
Denis O'Sullivan	Ireland
Elisabeth Brouwer	Netherlands
Ellen Moholt	
Elena Nikiphorou	UK
Esi Morgan	USA
Fatma Dedeoglu	USA
Francisco Blanco	Spain
Florian NAYE	Canada
Ina Campbell	Canada
Bertha Maat	Netherlands
Jennifer Burt	Canada
Kathleen Resnick	USA
Marija Kosanovic	Serbia
Laurent ARNAUD	France
Laurie Proulx	Canada
Lazina Mckenzie	Canada
Luis Arturo Gonzalez	Venezuela
Mary Lou Boudreau	Canada
Mary Vella	Malta
Melissa Mannion	USA
Jaq WHITE	USA

Neven Fouda Egypt

Nouran Abaza Egypt

Olive Moase Canada

Patricia Pennings Netherlands

Lawrence 'rick' Phillips USA

Simon Otter UK

Hana Smucrova Czech

Patrice Johnson USA

Teresa Oton Spain

Yasser El Miedany New Zealand

Adrien NZEUSSEU TOUKAP Belgium

Anita Wluka Australia

Ana-Maria Orbai USA

Bernhard Greve Germany

Barbara Hughes USA

Beverly Rogers USA

Cameron Adams Australia

Tom Appleton Canada

Caroline Terwee Netherlands

Christopher Swearingen USA

Cory Borkhoff CAnada

David Hunter Australia

David Rice New Zealand

Aygün Özer Turkey

Elisabeth spitz France

Evrim Duruoz Turkey

Fiona Blyth Australia

Gillian Hawker Canada

George Peat UK

Hylton Menz Australia

Halise hande gezer Turkey

Hulya Diplan Turkey

Hiral MASTER USA

Hatice Sule Baklacioglu Turkey

Ingrid Beam Canada

Ionut Pintilie Romania

Isabel Castrejon Spain

Jos Runhaar Netherlands

Jackie Whittaker Canada

Jean McKeever Canada

Jocelyn Bowden Australia

Donna Whitney USA

Jolene Farnsworth USA

Kim Bennell Australia

Ying Leung Singapore

Latifa Adarmouch Morocco

Leigh Callahan USA

Linda Ehrlich-Jones USA

Erhan Erkayhan Turkey

Peter Wilson USA

Marita Cross Australia

Mark Overton New Zealand

Marc Hochberg USA

Michael Nicholas Australia

Radouane Niamane Morocco

Nina Østerås Norway

Nuran öz Turkey

Polina Pchelnikova Russia

Anne Robins Canada

Ramakrishnan Mani New Zealand

Rana Hinman Australia

Richard Leff USA

Julie Watkins Australia

Rodger Laurent Australia

Sarah Stewart New Zealand

Sean O'Neill Australia

Metin GEZER

Sevtap acer kasman Turkey

Yukio Shimura Japan

Sydney Brooks

Tabitha Kung Canada

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Tom Lynch Australia

Tulay Tacettinoglu

Wanda Jones USA

Wen-Hung Chen USA

Yusuf Yazici USA