

ROUNDTABLE DISCUSSION

The Future of the Vascular Meeting

Leading physicians who play an active role in the development of meetings in the vascular space offer insight into the evolving landscape of conferences.


MODERATOR

Ramon L. Varcoe, MBBS, MS, FRACS, PhD, MMed(ClinEpi)
 Prince of Wales Hospital, University of New South Wales
 The Vascular Institute, Prince of Wales Hospital
 Sydney, Australia
r.varcoe@unsw.edu.au


Tara M. Mastracci, MD, FRCSC

St. Bartholomew's Hospital
 Associate Professor
 University College London
 London, United Kingdom
tara.mastracci@nhs.net


Venita Chandra, MD

Clinical Associate Professor of Surgery
 Stanford University School of Medicine
 Stanford, California
vchandra@stanford.edu


Parag J. Patel, MD, MS, FSIR

President, SIR
 Professor of Radiology & Surgery
 Division of Vascular & Interventional Radiology
 Medical College of Wisconsin
 Milwaukee, Wisconsin
papatel@mcw.edu


Afshin Gangi, MD, PhD

President, CIRSE
 Professor of Radiology
 Chief, Interventional Radiology
 University Hospital Strasbourg
 Strasbourg, France
afshin.gangi@chru-strasbourg.fr

Prof. Varcoe: Which elements of a medical conference are optimized in the in-person setting compared to virtual, and vice versa? And, what potential avenues are there for maximizing the benefits of each or tailoring them based on the individual's needs?

Dr. Chandra: The virtual experience was forced on all of us due to the exceptional scenario of the pandemic.

However, it did allow us to rapidly pivot in many of our interactions, and without question, it is now here to stay in some shape or form. There are certainly some elements of a medical conference that will always be optimized in the in-person setting compared to virtual. The virtual environment is excellent for didactic learning when discussion/debate are not key aspects of the program, such as watching a live case, learning about new research, or hearing from experts

on a particular topic. The live settings of course foster much more discussion and actual engagement. Programs that are more innovative, controversial, or interactive are much more amenable to the live environment. The in-person setting of course also provides the opportunity for the personal interactions that occur before and after the formal programs, which in my opinion may be the most important aspect of most conferences.

Prof. Gangi: Although the quality of education should be held to the same high standard regardless of how a medical conference takes place, there are indeed benefits to both formats.

Virtual medical conferences have been eye-opening in many ways. Ensuring that these online meetings are professionally organized and remain interactive—through the ability to participate and ask questions during sessions, in particular—is integral to keeping the conference spirit alive. Organizing sessions around a medical topic does work well, and the benefit to meeting online is that it removes most logistic barriers, allowing participation from anywhere in the world.

That said, it's been a thrill to be able to meet in person again this year. The human connection gained by attending a medical conference on-site is difficult to replicate online. Networking with colleagues, career development opportunities, access to health care industry innovations including hands-on device training, and the collective celebration and reflection of an organization's mission and achievements are opportunities exclusive to on-site meetings, and they were certainly missed over the past couple of years.

For the time being, hybrid meetings seem to be the way forward in tailoring conferences to best serve the individual. Attendees who are eager to return in person can do so, while others who may still be facing logistic difficulties still have access to all the high-quality presentations at the core of the meeting.

Dr. Mastracci: The advent of the virtual meeting has been a breakthrough, allowing continued educational development and "cross-pollination" despite the unprecedented times of a global pandemic. It has also been a testament to our facility with its technology adoption across the specialty, as most groups regained flexible and timely functioning by embracing platforms that had been outside of the mainstream clinical arena prior to March 2020.

There is no question that these virtual platforms add value: If properly resourced, they allow for large gatherings to continue to occur, with increased participation from remote teachers and learners, afford access to socially deprived populations of clinicians who may not have resources to travel, and decrease the environmental impact

It's been a thrill to be able to meet in person again this year. The human connection gained by attending a medical conference on-site is difficult to replicate online.

—Prof. Afshin Gangi

of the "conference circuit" by decreasing the travel investment of time and carbon.

However, there are aspects of in-person meetings that seem to fall by the wayside when a strictly virtual format is embraced: the networking and sharing of anecdotal experience, the creative case solving and brainstorming, and the impromptu meetings that lead to inspiring and big ideas. Virtual meetings reinforce old networks and strengthen the ties between familiar colleagues. However, it requires a bit more effort to forge new personal relationships when the meetings are remote. I believe the future is hybrid and will take some innovation to get there, but as vascular surgeons, we're up for the technologic challenge.

Dr. Patel: The greatest benefit to attending in person is the face-to-face connections we make with colleagues. Those personal connections are perhaps less important in the actual lecture format but more meaningful in the postsession questions at the podium, in the exhibit hall or hallways between sessions, and over dinner or drinks.

Our best teachers are our own colleagues from across the country or around the world; they do not necessarily exist in our local community. In-person meetings naturally facilitate our greater community coming together. The exchange of shared experiences, successes, and challenges triggers questions and allows a diversity of thought. This leads to innovation and change that can be realized in our day-to-day practices when we return home and back to work the next week. There is also a sense of realization that you are not alone. The struggles and challenges are not unique to you, and the real connection with your community matters. This is why we often come back from meetings inspired and reinvigorated to do better.

Virtual meetings are excellent for dissemination of knowledge and content. They eliminate the barriers of

entry (costly travel, time, distance) that were otherwise present when considering attending a meeting. In the past, if you were not at the meeting, you did not gain the same knowledge or experience gained by others present. Virtual access increases the accessibility of this content to the entire community. It is excellent at getting the message out to your society members. However, it is often one-way; it is more challenging to make it truly interactive the way in-person meetings can achieve.

Prof. Varcoe: With the return to in-person settings, we have seen some meetings adopt full or partial virtual components and others shift back to fully in person. What are the real-world barriers from the meeting standpoint to offering hybrid content? What are the unique opportunities in doing so?

Prof. Gangi: The technical requirements in staging a fully hybrid meeting are immense. Particularly with larger meetings, the human and mechanical resources needed to ensure that multiple live streams from different locations run smoothly and simultaneously can be challenging. Lecture and meeting room setup must be optimized for on-site and online faculty and delegates, and program planning can become more complex. Last but not least, hybrid also means a higher cost compared to online or on-site only.

Difficulties aside, we've learned a lot about virtual meetings over the past few years. It is indeed an opportunity to keep that innovative momentum moving forward in the endeavor of reaching an audience much wider than was ever possible in the past, as well as to allow your audience to revisit content and watch on-demand whenever and wherever they want.

Dr. Mastracci: I think many would agree—for all the environmental, time-sharing, and resource reasons cited previously—that hybrid meetings are a happy medium and a welcome addition to the conference circuit. However, the specifics for audience participation become a challenge. Sophisticated audiovisual setups are required to allow both the hybrid and in-person audience to interact, and many large meeting venues are not yet equipped with such technology. What this means is that online audiences frequently make do with text-only questions to the speaker, and a dialogue between an online audience member with an in-person speaker is not universally possible yet.

Furthermore, bandwidth differs by location and social infrastructure, making contributions of video content, which is critically necessary in the endovascular era, sometimes difficult to project with high fidelity. The frustration of the modern-day equivalent of a “bad connection” is real

on oversubscribed networks in communities with many members working from home.

Dr. Patel: We have all witnessed hybrid experiences that have gone poorly. The intentions are noble: to provide content that is accessible to a wider audience but also provide meaningful the interactions that come with in-person meetings. However, unless the logistics are on point, it can result in shortchanging both modalities, and neither in-person attendees nor virtual attendees walk away feeling like they received the full meeting experience.

Without adequate resources and meticulous planning, it is difficult to achieve a successful hybrid meeting that meets the needs for all. This is easier said than done because it requires significantly more planning time by meeting organizers but also a substantially increased financial cost for production. Hybrid models naturally tend to favor the in-person attendee, with focus on live interaction. The at-home attendee is not always able to follow along with group discussion or questions posed in the audience. This requires the virtual component to be thoughtfully organized, possibly with “live feed” access and video footage of the entire experience—otherwise, the virtual attendees do not get the full scope. However, the greatest benefit to offering hybrid remains its reach to a much larger audience.

Dr. Chandra: Despite the widespread use of increasing virtual platforms, offering hybrid content at a meeting is not necessarily straightforward. The challenges include ensuring the content streams seamlessly, the program is still engaging, and there remains the opportunity for discussion, which usually means a live yet virtual component if possible. This can be challenging and can add cost; however, it can also enable global participation and, of course, participation even in the circumstance of an emergency change of plans.

Prof. Varcoe: Meeting organizers are making efforts toward more equitable representation, although there is still progress to be made. How can meetings ensure diversity of their faculty as well as attendees?

Dr. Mastracci: I think this has been an incredibly difficult nut to crack, even before virtual meetings were on the scene.

There is no question that the flexibility of a hybrid meeting opens the floor to a more diverse group of people from broader geographic locations and social groups. But that alone is not sufficient to make the sea change that is needed. As meeting attendees and organizers, we have a duty to rethink the value of meetings and perhaps change the priorities when setting the curriculum. Hearing a thought-leader in the field give the same talk they've been giving for

Meeting organizers would benefit from diversity within their course directors. This often leads to a broader consideration for diverse faculty and programming.

—Dr. Parag J. Patel

years can be really valuable for the young attendees who haven't heard it before, but the law of diminishing returns comes into effect if that same subject and speaker is offered at every meeting on the circuit. Many people will pay to see the Rolling Stones perform once, but even at their peak, there are only so many times you can hear the greats.

If society meetings or other large symposia worked together to offer complementary recorded sessions to registrants of partnered meetings, an annual library of relevant and current research could be offered to attendees, thus freeing up space on the agenda for case-sharing, moderated discussions, and other fora that may welcome a younger and more diverse array of experienced speakers. Repurposing the per diem provided to speakers for grants to trainees or other means-tested attendees would also be an option worth exploring. Furthermore, it would be wonderful if we could acknowledge the risk of digital exclusion as we're building this "new normal" and work to find creative ways to be sure it doesn't impact participation.

Dr. Patel: Meaningful change toward equitable representation at meetings will only occur if this becomes a focus at the onset of meeting planning. Meeting organizers would benefit from diversity within their course directors. This often leads to a broader consideration for diverse faculty and programming. Additionally, many medical societies and organizations have developed speakers' bureaus with rosters of potential faculty from underrepresented groups and their area of content expertise or experience. Early career diverse faculty can be brought in for panel discussions or hands-on demonstrations. These junior faculty benefit from the experience and can provide commensurate content. These investments in the faculty will evolve to main stage speakers in the future. The commitment to equitable representation applies to practice environment as well, such

as small community centers, office-based labs, and private practice—it should not be limited to faculty at the largest academic centers.

Dr. Chandra: This is a key issue. Although efforts have been made on this front, we are still far away from equitable representation. A study by Arora et al looked at the proportion of female speakers at medical conferences across the globe and found that the proportion of female speakers remains lower than male speakers, with more than one-third of panels consisting of men only.¹ Diversity of thought including not only gender but also race, ethnicity, and age is incredibly important on the podium. Such diversity of background can result in improved discussion due to the increased number of perspectives/opinions that lead to increased innovation. Diversity on the podium can also increase the pipeline of young people joining our specialties and organizations.

There are number of simple steps that meeting organizers can do to ensure diversity of their faculty. First, increasing diversity of the program committees is clearly associated with improved diversity.¹ Besides that, intentionality is a key aspect; meeting organizers need to have the goal of improving diversity for *every* invitation across a program. To do so, they often must reach beyond their typical invites and ask people they potentially don't know.

Prof. Gangi: Diversity should be on the minds of any programming committee, particularly as hybrid meetings have created the possibility to have doctors sitting on opposite sides of the globe presenting together in the same session.

In other areas, standards can be put in place that make diversity the default. For example, the Cardiovascular and Interventional Radiological Society of Europe (CIRSE)'s European Trainee Forum Subcommittee includes one male and one female representative from each country included. When we look at our student program, we see that the future generation of interventional radiologists comes from all over the world and that there are an equal number of men and women participating. This should be celebrated and encouraged.

Dedicated sessions as well can help encourage diversity at congresses. For example, the CIRSE annual meeting features a Women in Interventional Radiology (IR) session, an IR management track full of practical advice on a range of topics, and several sessions aimed at interventional radiologists in different stages of their careers. We also feature "CIRSE Meets..." sessions that put a spotlight on societies from other medical specialties from across the globe. Ensuring the diversity of attendees hinges on making sure that all attendees feel welcome and represented.

Prof. Varcoe: Although meetings continue to grow in number, one criticism is that the talks, and even the faculty, can be similar from one meeting to the next. Does the meeting content landscape need a shake-up? What are some ideas for how organizers can ensure originality and a thriving future?

Dr. Patel: The consumer will determine the need. In this case, meeting attendees will determine if a meeting with similar talks/content meets their threshold for the time and cost to attend in person, by virtual registration, or neither. The availability of content is so widespread that meetings are no longer the predominant means for gathering this knowledge. Social media, podcasts, webinars, and virtual content have changed the landscape. In-person meeting organizers must provide compelling content and experiences to drive attendance.

Dr. Chandra: Great question. Increasing diversity on the program committees and invitations can help with this to some degree. Addressing areas of controversy head on instead of avoiding them is important—focusing always on pushing the envelope forward rather than settling into the same procedures/debates/concepts.

Prof. Gangi: This perhaps depends on the discipline, but it is not a criticism I have heard about CIRSE conferences. IR is in its prime as a thriving and innovative field, and for the time being, there's for sure always something new to talk about.

Ensuring that this remains the case for the future is important. As a society, we do all we can to encourage the next generation by having programs for trainees and students and making sure that our congresses are an opportunity for interventional radiologists at the beginning stages of their careers to interact with and learn from the expert faculty who have decades of irreplaceable experience behind them. We encourage the next generation not only to listen and learn but also to interact and engage and become the next leaders and presenters at CIRSE conferences.

The pandemic itself has been a shake-up for the meeting landscape—when travel and hands-on learning alongside friends and colleagues were not possible, what kept bringing people to meetings? Guaranteeing that we would continue to present unbiased medical education and innovative, cutting-edge research has been vital.

Dr. Mastracci: I think this criticism is well placed and often true. Favoring the largest case series and the newest technology will bias content toward well-resourced hospital systems, leaving many surgeons out of the run-

ning for podium positions. These large series obviously have a lot to teach us, so the content of these talks is important but could also exist in an online library to inform discussion for case-based presentations and other more creative content. Understanding local issues and the creative ways that different groups solve problems would also add a new perspective to meetings and fall under the category of things that should be explored.

Prof. Varcoe: Similarly, most meetings follow a common format comprising a series of brief lectures, often with no time left at the end for questions. What alternate format concepts might differentiate a live, in-person meeting from the pack and add value compared to virtual lectures from home?

Prof. Gangi: First, time should be made for questions! Something as small as scheduling 15 minutes between sessions, rather than scheduling them back-to-back, ensures that there is still time for discussion even if one presenter runs a bit long. Our hybrid meetings also allow remote attendees to ask questions that can be read by the moderator on-site so that no one gets left out of the conversation. Moderators should be briefed and ready to help sessions run smoothly.

The traditional setup of sessions can also be reimagined. For example, last June at ET, our embolotherapy conference, we brought the moderator down into the audience and had a catch-box microphone that attendees could toss to each other to ask their questions. This little bit of fun informality puts the audience at ease and encourages them to participate.

Some of our sessions also include e-voting questions that attendees can answer via our app, or they take place in open-stage formats integrated into the exhibition hall. In these cases, the role of the moderator to involve the audience and encourage them to interact is becoming even more important.

Dr. Mastracci: I suspect the real game-changing ideas are still yet to be thought up and will involve virtual reality sometime in the future. However, in the present, there should definitely be more time for moderated discussions to flesh out the details of new innovations and cross-pollinate ideas. Even if this means decreasing the amount of "talking head" time, it allows for interpretation of research findings and may make the published results more applicable to a wider range of audiences.

Personally, I love case discussions. I think showing cases allows for challenging, real-time decision-making and helps solidify new concepts or demonstrate the role of new technology in practice. This is also a format that is more

accessible to surgeons with different levels of expertise and volumes of practice, so it feels more inclusive by design.

Dr. Chandra: I believe this is an area where we can gain from some of the tools we developed/mastered in virtual environments. Ensuring adequate discussion time is built into a program, and including an electronic method of either named or anonymous comments/questions is key. The ability to text rather than speak a question significantly increases the participation of the audience.

Dr. Patel: I firmly believe that the best learning comes from peer-to-peer interaction, so it is imperative that meeting content allows ample time and access for attendees to ask questions and follow-up on content. Virtual lectures are a great way to get content out to the masses; however, it's the follow-up discussion that many benefit from most. Structuring in-person meetings to have more of a town hall concept or increasing allotted time for panel discussion is essential to a well-rounded experience.

Prof. Varcoe: Conferences are funded in part by industry through grants, exhibit hall space, and sponsored symposia. One concern from industry through the years has been booth traffic and lead generation. At a time when companies face budget tightening and increased pressure to demonstrate return on investment, what are some creative ways meetings can facilitate networking and help draw attendees into the exhibit hall?

Dr. Mastracci: Expanding the reach of meeting attendees to nursing and paramedical staff would broaden the audience and acknowledge the real team at the coalface. Educational offerings, especially to younger surgeons, are also a great way to increase traffic and contribute to the field.

Dr. Chandra: This is tricky. I would say the era of the traditional "exhibit hall" may be over. That being said, relationships, interactions, and hands-on experience/exposure are still important. I would love to see a more creative, almost social media-like version of the exhibit hall experience, where we are exposed to short glimpses of new technology and have the opportunity to engage in person after that. Perhaps this could pop up on that same technology platform that allows us to ask questions.

Dr. Patel: Conferences and industry support go hand in hand. Registration fees alone would not cover the expense to organize and conduct large conferences. The interventional space has grown, and the expansion of treatment is

Ensuring adequate discussion time is built into a program, and including an electronic method of either named or anonymous comments/questions is key.

—Dr. Venita Chandra

directly connected to the devices that allow us to provide this care. The content disseminated during conferences increases the knowledge of the attendee. It is incumbent that meeting organizers support education on the proper role for these devices in the care for our patients. This also means managing conflicts and delivery of educational content. I have seen hands-on demonstrations occurring in the exhibit hall or roundtable informal discussions in a similar location.

Prof. Gangi: During the pandemic, our corporate partners realized how valuable on-site medical conferences are for promoting their products. Online-only does not create the same impact. The on-site exhibition hall at the CIRSE conference is usually placed in a central location because it is one of the busiest areas of the congress. It is the perfect place to meet existing and potential new customers.

At CIRSE, we will continue to create exhibition halls that attract participants and entice them to stay. Beyond the commercial stands and the different hands-on learning centers organized by our corporate partners, our exhibition hall includes numerous congress and society activities, such as presentation foyers, lounges for members and congress delegates, a dedicated News on Stage podium, a Radiation Protection Pavilion, a Simulator Training lounge, and more.

Having said this, we should also recognize that society-led medical conferences are very important for the positive development of a medical field. Companies should not underestimate this value creation when considering their participation. A successful medical conference is based on the cooperation between all stakeholders, and this includes our corporate partners.

Prof. Varcoe: If you could change or improve one thing about the meeting landscape, what would it be?

Dr. Chandra: Diversity, diversity, diversity.

Prof. Gangi: Accessibility. Even before the pandemic, time off, travel, and finances were still barriers to conference attendance for many. All efforts should be made to mitigate the challenges—through support programs, grants, and remote access options—to ensure that continuing, unbiased medical education is easily obtained by as many people as possible.

Dr. Mastracci: I think fewer meetings with more time for discussion and case-based sessions would make the meeting landscape a lot more interesting. Acknowledging and designing around the risk of digital exclusion as the meetings take on a greater digital/online presence is also important.

Dr. Patel: Continued innovation to allow a greater reach to all in our global endovascular community. We have not yet hit the perfect balance. We are part of a creative diverse community. Our patients benefit when we all have access to the knowledge shared at our meetings.

Prof. Varcoe: What are your predictions for how vascular conferences will look in 10 years (ie, differences or similarities to present day)?

Prof. Gangi: It looks as if hybrid meetings are here to stay for the foreseeable future. The greatest change in the next 10 years will surely be the scope of what we can accomplish between the on-site meeting and the remote meeting. The meetings we have held over the last 2 years would not have been technically feasible a decade ago, and there's no reason to expect technologic progress to stop.

Beyond the forward march of clinical research, which will doubtless have our programs looking very different 10 years from now, I expect that in the future, it will become increasingly easy for on-site and remote attendees to interact with each other.

The heightened spirits, inspiration, and overall feeling of collaborative progress gained from attending a CIRSE conference will beyond a shadow of a doubt remain just the same.

Dr. Patel: I envision advancements in how the curriculum is presented and shared, as we are an ever-evolving field. The shift to virtual was forced on us due to the pandemic. We participated in these experiences with the currently available technology, and it was largely positive (or, better than the alternative of no meeting). Technology will improve, and the virtual or hybrid experience will as well. The one thing that will remain constant is the camaraderie among colleagues and partners. Currently, this is best achieved in person, but this may change with the growth of augmented reality

I hope there will be more attention paid to inclusion of all members of the team and the variety of health care systems practicing.

—Dr. Tara M. Mastracci

and the metaverse in the next decade. It is uncertain if and how that will be best used to improve the meeting experience.

Dr. Mastracci: I think the hybrid format is here to stay, and advancing technology will make this even more accessible and interactive. I hope there will be more attention paid to inclusion of all members of the team and the variety of health care systems practicing. I predict more meetings will be global, with local activity supplementing the online platform offerings. I hope the environmental impact of meeting planning and conduct finds its way into the equation so that large multidisciplinary groups make an effort to coordinate their conferences to decrease the carbon footprint of these essential educational endeavors.

Dr. Chandra: I believe the hybrid model is here to stay and will continue to become increasingly sophisticated. I can imagine walking into a talk where an avatar is speaking to us from the other side of the globe! Lots of fun things ahead. ■

1. Arora A, Kaur Y, Dossa F, et al. Proportion of female speakers at academic medical conferences across multiple specialties and regions. *JAMA Netw Open.* 2020;3:e2018127. doi: 10.1001/jamanetworkopen.2020.18127

Disclosures

Prof. Varcoe: Founder and Course Director of the VERVE Symposium.

Dr. Chandra: Advisor or consultant to Gore & Associates, Medtronic, Cook, Shockwave Medical, MedAlliance, and Alucent Biomedical.

Prof. Gangi: Receipt of honoraria or consultation fees from Medtronic, Boston Scientific Corporation; patent holder, APRIOMED.

Dr. Mastracci: Consultant to Cook Medical and Viz.ai; chair of Cydar Medical's medical affairs board; member of Philip's vascular surgery advisory board; Codirector of Critical Issues Europe 2021 and PEAC.

Dr. Patel: None.