



Organizing a Virtual Radiography Conference during Covid-19 Pandemic

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Abstract

Introduction: The Covid -19 pandemic has affected planned physical healthcare conferences around the globe. To ensure adequate continuing professional development, virtual conference organization is the solution for healthcare professionals and the radiography community. This review article aims to document strategies for converting a physical conference to a virtual conference.

Methods: The Singapore Society of Radiographers had to convert the annual conference to a virtual platform. The pre- during and post- conference activities were addressed within the paper, while emphasizing several key strategies and recommendations to improve the virtual experience for participants.

Results: The post conference feedback showed favorable results where 93.1% participants agreed that the conference met their expectations. Additionally, we highlighted the challenges faced in organization of a virtual conference amidst the pandemic such as manpower and interactivity. There was increased cost-effectiveness in conducting a virtual conference.

Conclusion: Conferences are still an integral component for continuing professional development. We believe that healthcare professionals require adequate continuing professional education and attending effective conferences would ultimately improve their clinical services and work with confidence.

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Keywords: COVID -19; Radiography; Circuit Breaker; Conferences; Video-on-demand.

Abbreviations: CPD: Continuing Professional Development; VOD: Video-on-Demand.



Background

When Singapore had their first COVID-19 infection, the first case identified on 23 January 2020, precautionary measures such as travel restrictions and mandatory quarantine orders were quickly put in place to limit the spread of the virus in Singapore. On 30th January 2020, the World Health Organisation declared COVID-19 as a global emergency. As local transmission rose, the Singapore government enforced stricter measures and initiated a partial lockdown termed as “circuit breaker”. The growing clusters were concerning and this led to many physical events cancelled, mass gatherings prohibited, and safe distancing enforced.

Chest radiography is a widely available baseline radiological modality prioritized for confirming COVID-19 pneumonia and diagnostic radiographers play a frontline role in managing the COVID-19 pandemic. Non-urgent surgeries and admissions were deferred to conserve resources, while radiation therapy activity dropped during the first waves of the pandemic [1,2]. In an attempt to reduce local transmission, healthcare professionals had to adhere to safe-distancing measures, especially within the workplace. This includes adapting to isolated dining within their workplace and restricted cross-institution movement of staffs, as they could be vectors for cross-infection.

Across the globe, healthcare conference organizers had to postpone planned physical conferences due to massive cancellations and tightened COVID-19 precautionary measures. In 2020, the Singapore Society of Radiographers had to postpone our annual scientific conference and annual general meeting. The society had to strategise on organising a virtual event with safe distancing measures. The review article aims to document strategies for converting a physical conference to a virtual conference.

Restrategising solutions

The sudden cessation of all physical conferences and similar meetings called for fresh solutions. Firstly, monthly physical Continuing Professional Development (CPD) programmes were converted to online webinars. The society then began planning to conduct the annual conference and general meeting virtually, given the success of the virtual CPD sessions during preliminary stages.

A key challenge we faced was to make the virtual conference experience as immersive as a physical conference. There had to be inclusion of virtual vendor booths, poster gallery, catering sufficient number of track sessions, adequate network bandwidth or server for the number of potential participants, ease of use for the platform interface, ability to support pre-recorded sessions and moderated live question and answer session. Only few web-agencies offered digital online platforms that could support the vision of the platform requirements. Furthermore, there were limitations of available web agents that could have a virtual platform ready for use by the time of our event. Additionally, a live display of radiography images and videos during talks would require significant network data and bandwidth, making the provision of a strong streaming server a crucial element of the engagement with the web-agency. Some companies were able to offer Video-on-Demand (VOD) storage capability for up to one year which was an additional advantage and beneficial for registered participants who would like to review the VOD again. The budget was a critical factor during decision-making; hence, quotations were received from the three web agencies and evaluated based on their capabilities.

Pre-conference preparation

Aside from the platform required to deliver the content, the professional academic content remained the core focus of the conference. Potential speakers were solicited through emails and institution representatives. To reduce the probability of technical glitches, pre-recorded talks were preferred [3]. Speakers were asked to record their own talks using a standard format and specific instructions to upload a video of their talk [4].

Preparation of pre-recorded introductions was assigned to track leads to ensure smooth arrangement of each track session. The video links for each track programme were arranged in running sequence and each talk duration was precisely transcribed to ensure track times followed the programme strictly. This assured the programme would not overrun, and adequate time was available for question-and-answer sessions and panel discussions.

For the preferred papers and posters, electronic abstract submissions were retrieved by a member of the academic committee and anonymized. The blinded abstracts were assigned electronically to two reviewers within the academic committee and later rated accordingly for quality. The poster format was standardised to facilitate ease of readability for the online platform. Prizes, feedback, and certificates were all presented in electronic format. Electronic vouchers were the most appropriate prizes for oral tracks.

For access to the conference platform, individual log-ins had to be created at least 48-hours prior to conference, and emails had to be sent to participants, at least 24-hours prior to the conference for them to test their audio. The selected virtual portal had to be able to track live data analytics and offer feedback at each track, for the team to assess the tracks’ expectations and attendance. The data could be collated to allow the committee to review participants’ feedback and disseminate certificate of attendance to those who had completed the feedback.

Despite many pre-event components to coordinate, the event had to be orchestrated with the on-site web agency representatives on the event day. A physical location that could accommodate adequate safe distancing measures for each of the on-site executive committee members had to be selected. This was to ensure effective communication for major hurdles or technical glitches that may occur during the live event. Once decided on the on-site location, the executive committee reconnoitered the location with the web agent representative, to ensure there was adequate Wi-Fi strengths and bandwidth for the number of participants that was projected.

During live conference

To retain an element of interactivity, a live-recorded segment was included in the conference programme. The setting up of the on-site location with live feed cameras had to be done with adequate social distancing measures and maintaining room capacity limits prior to the live conference [5]. Each on-site executive committee member had to be seated at different locations to reduce possibility of reverberation or feedback during the panel discussion. Due to the safe distancing requirements and cost considerations, only one web agent representative was physically present to manage and communicate with the executive committee. Zoom® (Zoom Video Communications, San Jose, California, USA) was chosen by the web agency as the preferred third-party application to be integrated within the web portal solution. All live-feed utilised the integrated Zoom

meeting rooms, with a dedicated break-out room for independent panel discussion for each track session. The interface and coordination of panel discussion session was done by off-site representatives hosting the Zoom meeting room.

Post-mortem activities

At the end of the conference, we obtained a total of 101 feedback submissions from participants on a 5-point Likert scale, for questions regarding the Organisation of the event; i.e. pre-event communication, conference event Organisation, duration of event, key-note and plenary session, expectations of conference, and topics in the conference (Figure 1).

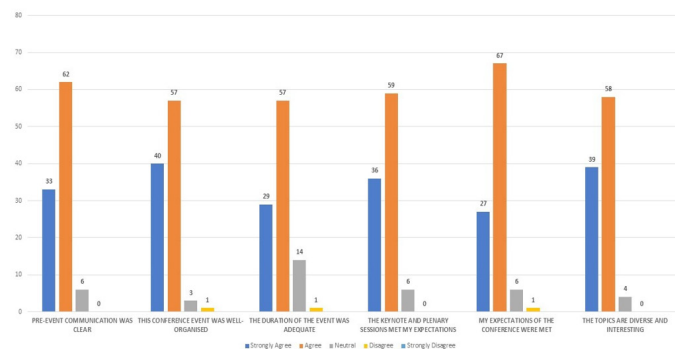


Figure 1: Histogram chart on the feedback received during virtual conference.

All the categories within the feedback received were favorable showing the effectiveness of the virtual conference. A total of 94.1% of participants agreed that pre-communication was clear. 96% concurred that the conference was well organized, and 85.1% agreed the duration of the conference was adequate. The keynote and plenary met expectations of 94.1% of participants, 93.1% participants agreed that the conference met their expectations. 96% of participants found the topics to be diverse and interesting.

Challenges, reflections and lessons learnt

The difficulties that we faced can be categorised into two headings, namely manpower limitations and interactivity.

Pre-event and actual day on-site manpower are important for the success of the conference.

Pre-event logistic work is substantial with multiple administrative checks to prevent errors. In our experience, we encountered last minute registration and these participants were not able to obtain their login details on time. It is recommended that registration and payments of participants should end at least 2 days prior the event, to ensure the right email list of registrants is created for their log-ins by the web agency. The collation and arrangement of pre-recorded content is essential, at least two weeks prior to event, to ensure the videos and audio are of good quality and the duration met the allocated time.

On-site manpower is also an important requirement, as the on-site staff will be monitoring the sequential flow of the track to ensure that any technical difficulties could be addressed immediately. For future conferences, a contingency plan for video streaming can help to mitigate any possible streaming latency during the live event. Having only one web agent representative on-site was insufficient to ensure smooth running, as breaks may be needed during the event. As part of a virtual event involving participants in different time zones, there is a need to coordinate track sessions and networking with speakers and

vendor, and pre-arranged time for networking to reduce confusion. During the actual running event, technical logistics need to be considered as all on-site representatives may require at least two devices at one time. The web agent representative will be working on multiple devices to monitor each track, and the panel discussion break-out rooms.

With regards to interactivity, the conference event is a one-way learning portal for participants, and there can be lack of engagement from speakers unless the speakers present live and perform polls or chat to increase interaction. During the session, the live chat function on the conference portal was copied to the Zoom panel discussion by a representative, hence monitoring of live feed in addition to the Zoom is essential for successful moderation. The live stream had an inherent approximate 10 seconds delay from the Zoom transmission, hence last minute chat questions may not be reviewed during live panel discussion. A chat box function can be useful within the virtual portal for the participant's questions to be answered by speakers after the session ends. With the VOD available, participants can view the videos at their own time to improve information retention [6].

Despite the technicalities of the virtual landscape, it has proven to be an effective tool to build engaging remote educational activities, foster connections, and bridge areas of clinical updates, whilst maintaining social distancing [7]. This ability to share data through talks despite the remote locations, can still lead to improvement for scientific progress [8].

Networking as one of the key objectives of a professional conference, however physical networking with other healthcare professionals is not possible in a fully virtual conference. Speaker solicitation was essentially through emails and expert known published work. From our experience, there were some veteran speakers who rejected the invitation to speak, as they were not comfortable with the virtual landscape. No social dinner or refreshments could be organized for the speakers and participants. While the arrangement of pre-recorded talks allows presentations to be aired without the worry of time-zone differences, participants may be viewing the conference talks in isolation, and speakers can choose to be present or not during the panel discussions. As a result, the cognitive awareness of the participants cannot be assessed. We provide recommendations for an organizer to consider during the planning of a virtual conference as follows:

1. Consider pre-recorded presentations to reduce technical errors during live event
2. Review social distancing measures for on-site headquarters
3. Plan virtual conference platform requirements and capability
4. Consider the registration period for preparation of log-ins
5. Review cost-effectiveness of conference platform
6. Prepare a contingency plan for video streaming
7. Schedule allocated sessions for networking with speakers and vendors.

Organizers have to weigh the pros and cons of having a physical conference, versus a virtual one. From the feedback that we received, the outcome remains the positive. The cost-

effectiveness of having a virtual conference proves, as there can be elimination of a physical conference venue while still delivering the same learning objective. The application of social distancing measures potentially reduces the number of conference participants in the chosen space, or requires a large floor area to cater to larger attendances, thereby increasing the costs involved significantly [5]. Costs could be reduced without the necessity to offer speakers with travel stipends. However, with no international delegates, local tourism board benefits to facilitate conferences will not be feasible. The availability of foreign delegates indirectly boosts the economy of the country, and this is impeded by travel restrictions and only local participants.

In the virtual landscape, it is impossible to conduct hands-on workshop without orchestrating facilitators within each institution or country. Hence, in the future, the use of hybrid learning techniques can be the future “norms” for workshops. The use of simulation techniques that can be performed remotely or even virtual reality can be implemented, to improve the audience experience in a conference.

Conclusion

We have presented our experience in conducting a virtual conference during the COVID pandemic, and several strategies to circumvent any possible problems that may potentially arise. Conferences are an integral part of CPD for healthcare professionals. Its availability is necessary to ensure our healthcare professional and radiography community CPD needs are addressed, allowing them to provide clinical services with confidence [9]. In the near future, virtual and hybrid conferences will be the next “new norm”.

Declarations

Availability of data and materials: All data generated or analysed during this study are included in this published article.

Authors' contributions: All the authors conceived the topic of interest and researched literature. AMA wrote the first draft of the manuscript. All authors reviewed and edited the manuscript and approved the final version of the manuscript.

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