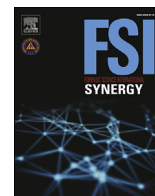




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Increasing engagement of forensic pathologists with the public on social media: Could there be room for live broadcasts?



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ABSTRACT

In order to protect decedent privacy and to avoid the gratuitous use of photographs of death scenes and injuries by non-practitioners, professional meetings of forensic pathologists are never broadcast live to an audience beyond immediate conference attendees. However there may be topics of general interest which do not require censorship and to which outside viewers could be invited. Given the COVID19 pandemic and the need for virtual conferencing, it may be time to reconsider lifting this restriction for certain subject matter. Several platforms exist for live social media broadcasts which enable the broadcaster to exercise direct control over their content without having to go through an intermediary. When fully exploited, these live broadcasts could be of considerable value as another vehicle with which to educate the public about forensic pathology, an opportunity to promote forensic research and most important a recruiting tool to address critical manpower shortages.

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1. Introduction

Some images and cases in forensic pathology may be interesting and titillating to a public with a voracious appetite for gory and sensational content. However the nature of forensic pathology is such that at professional meetings, most material being of sensitive nature is thus excluded from public consumption. We are bound by our responsibility to protect decedent privacy and uphold the integrity of medicolegal and judicial processes. There are several organizations that serve the interest of forensic medicine and pathology, among them the American Academy of Forensic Science, the Australia and New Zealand Society of Forensic Science, the British Academy of Forensic Science, the Canadian Society of Forensic Science and the National Association of Medical Examiners (NAME). Since NAME is arguably the largest professional grouping of anglophone forensic pathologists in the world, the experiment discussed further below was performed at one of its meetings.

The Covid19 pandemic has changed the way in which many conference presentations have been delivered and the NAME 2020 annual general meeting would be no exception. It is worth noting that two recent forensic pathology meetings sponsored by the University of Ottawa in Canada and the Office of the Chief Medical Examiner in Washington DC, were also broadcast live over the

internet albeit to a restricted audience of forensic pathologists and related practitioners [1,2]. A virtual meeting of a multispecialty organization, the National Medical Association (NMA) in August 2020 also included presentations by forensic pathologists [3]. The breadth of the advertised program and the ease of registration meant that these presentations would have provided excellent opportunities for interaction and education with colleagues from other specialties. In contrast, it is highly unlikely that a physician without training or certification in forensic pathology would attend a NAME conference in person.

By the time this paper is published, participants at NAME meeting in 2020 would have been able to log on to the conference website and for the first time since the organizations founding in 1966, would have viewed the transmitted lectures live. Some participants would have probably observed the proceedings from locations far beyond the originally planned venue in the United States. However, only individuals registered to participate would have had access to the full slate of lectures and abstracts. The pandemic aside, there are reasons to question the continuation of the status quo and social media might be just the tool to power this change.

These reasons are outlined thus:

- There are considerable challenges to recruitment and the shortage of qualified personnel which are well known and documented. As such, we should use live broadcasts to our

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advantage to showcase issues that forensic pathologists have to address. It is best to be able to explain these issues outside of the intense glare and emotion of high profile cases, when tests and investigations not essential to making a determination of the cause and manner of death may be performed if only to settle the public's reservations about the integrity of the entire process

- Given the imperative to educate the public about the functions of forensic pathologists within the medicolegal and public health surveillance systems, why not seize the opportunity to fundamentally alter how we communicate by engaging with the public? Are the often inaccurate depictions of forensic pathology on television and in the movies, not sufficient motivation for us to educate potential jurors about the capabilities and limitations of contemporary forensic pathology [4,5]?
- Even though many forensic pathologists are not attached to medical centers nor are they for a variety of reasons involved in research [6], are we as a community maximizing opportunities to disseminate what research we are involved in to a public and a scientific community that in many ways funds this research and expects evidence based decisions in our reports and in our testimony?
- The abundance of free and affordable social media broadcast platforms such as Twitter, Facebook Live, Instagram Live and TikTok (which individually count millions of subscribers) and the improved access to the Internet worldwide provide too good an opportunity to ignore. If we as forensic professionals do not now begin to take advantage of social media, when will we ever be ready to engage with the world beyond our peers and colleagues?

2. Tendency to speak to ones' peers

Like other subspecialty groups there is a natural tendency for intragroup

Conversation and discussion. Forensic pathologists tend to converse with people with whom they have similar interests. While it can be argued that no other specialty meeting necessarily endorses the practice of live broadcasts to a general audience, few others have the same public profile.

This article posits that there are topics of general interest for which traditional censorship is unnecessary and to which outside viewers should be invited, taking advantage of the broadcast capabilities of modern social media. There is precedent for it in an experiment conducted at a NAME meeting, the purpose of which was to determine.

- a. If live broadcasts on topics of a general nature are possible, and
- b. Whether they can be accomplished without unreasonable upset to any party including violation of decedent privacy
- c. What technical challenges they may face given the need to have the appropriate device with good quality cameras, sensitive microphones, relevant software applications installed on broadcast devices and high speed internet connection with sufficient bandwidth.

3. The experiment

A live broadcast over the internet or more accurately "live streaming" is defined "a broadcast of a live event streamed over the Internet" [7]. There is no significant delay between the time the event is broadcast and the time it is seen by a remote audience. For the purpose of this experiment the following were required: a presenter or broadcaster, a subject to be discussed, recording and

transmitting devices or medium and remote viewers.

Three physicians at the 2018 NAME gave their permission to have their presentations broadcast live on Twitter once the purpose of the broadcast had been explained and a topic agreed. The first discussed strategies to developing a career as a forensic pathologist. The second explained how she made the transition into forensic pathology having previously opted for different subspecialty training. The third gave guidance on selecting and obtaining work visas as forensic pathologists migrating to the United States. As expected none of the broadcasts involved the transmission of decedent information or of death scene photos.

Because the broadcasts were performed a. outside of the conference room reserved for the meeting, and b. Included neither recorded nor still images from any of the scheduled sessions nor any material whatsoever that could have been prejudicial to decedent privacy, the broadcasts did not violate NAME's policies prohibiting the recording or taping of any sessions/presentations. See Fig. 1 that outlines participant behavior at NAME meetings.

The broadcasts statistics (or so called "Twitter analytics" were reviewed in August 2020 or 20 months after they were initially posted. For each broadcast, its length, number of views, impressions, retweets and the engagement rate (ER-number of views to impressions) was tabulated. See Fig. 2.

Although the broadcasts were short compared to most NAME presentations, which usually run from 10 to 45 min, they still gathered a sizable audience through tweets and retweets. Twitter's algorithm would count clicks anywhere on a tweet as an "engagement". Impressions are defined as the number of times a Twitter user receives a tweet either within their timeline or during a search [9]. The engagement rate for each tweet was calculated as the number of engagements divided by impressions. The ERs of approximately 10% indicate that one out of every 10 people who saw the links to the tweets watched the videos. Critical to use of social media in forensic pathology is the fact that there have been no complaints to the author or to NAME about any of the broadcasts to date.

4. Discussion

The experiment showed that live broadcasts to a general audience on topics of public interest are possible and they can be done in a manner that is productive, inoffensive and with the potential to reach a larger audience than would typically attend the meeting. Noted is the ER of 10%. While there is no firm standard on what constitutes a good ER in forensic pathology (which limits interpretation of ER), a rate of 6.4% in a study of ERs on Facebook on breast cancer related material was deemed "high" [10]. Wadhwa et al. also reported a rate of 6.57% as "high" and in their analysis of tweets by the American Journal of Neuroradiology noted a direct correlation of visual material attached to tweets with a substantially higher ER [9].

4.1. What are the potential benefits of live broadcasts and how can they supplement existing outreach attempts?

This section discusses how live broadcasts can be useful to NAME and other professional organizations catering to forensic pathologists. While it is desirable for forensic pathology groups to produce their own broadcasts, many forensic pathologists remain at best lukewarm to the idea of social media, much less live broadcasts. This reluctance could be overcome at least initially by a portfolio of scheduled broadcasts hosted by a national or international organization which would provide opportunities for general and specialty education. Given their reach, such entities would have considerable influence and would be in an optimum position

- Do not endorse any products or advertisements on the NAME social media account without direct NAME approval. Sharing on line content from corporate sponsors who are conference exhibitors in the context of NAME meetings is allowed and is not considered an endorsement.
- Refrain from posting any medical advice directed at individual people or cases on NAME social media accounts. General advice or recommendations directed at the public based on NAME policies or position papers, or guidelines published in Academic Forensic Pathology are appropriate.
- Make sure that any images posted of recognizable individuals are posted with consent from the individuals photographed and you get permission to tag or mention them. Overall large group photographs from public spaces where there is no expectation of privacy do not require individual consent, unless the individuals are being tagged or identified by name in the captions.
- Any person who makes a post must abide by the United States federal and applicable state laws regarding social media safety and conduct, and by the guidelines and rules set by the platform.
- It is appropriate for NAME accounts to follow, connect, or friend NAME members or other professional organizations in order to increase exposure and create connections. Following an individual or organization does not constitute an endorsement of their opinions or posts.
- Posts regarding NAME meetings should all include a hash tag (#) and the year of the meeting e.g. #NAME2018 to allow for a more centered access of pictures taken for NAME events.
- **NAME meeting presentations cannot be videotaped for dissemination on social media. Posters may be photographed with the permission of the authors, but refrain from having any recognizable gross pathology photos or graphic images visible to avoid HIPAA violations.**
- Do not post any personal information of participants, such as address, phone number, age, mother's maiden name, city where they met their significant other, or other personal information without permission.
- Do not post any administrative information such as passwords, account names, access codes, or "hidden" urls.

Fig. 1. NAMEs policy on social media posts at meetings [8].

Broadcast	Duration (seconds)	Total views	Total impressions	Total retweets	ER%
#1	55	155	1538	6	9.92
#2	139	276	2898	6	10.5
#3	146	178	1829	3	10.2

Fig. 2. Tweet characteristics by broadcast.

to provide up to date information on issues relevant to both the public and our non-forensic colleagues. A coordinated response is needed to help tackle longstanding issues of recruitment and retention of forensic pathologists, research dissemination and public education. This in no way implies that appropriate broadcasts pertinent to local or regional issues should not originate from a smaller group or even individual forensic pathologists.

In practical terms this means that:

1. Presentations/discussions can be led by forensic pathologists without the filter or censure of traditional media
2. There are opportunities for live back and forth discussions through which members of the public can engage directly with recognised experts in real time [11].
3. A larger audience increases the likelihood of opportunities to connect and collaborate, seek advice and mentors
4. Forensic pathologists will remain mindful of using simple clear language to express their thoughts and opinions. This will help dispel some of the negative stereotypes about forensic pathology and forensic pathologists held by some members of the public and even some of our colleagues.

These 4 advantages accrue in various ways to the issues of recruitment, public education and research.

4.2. Recruitment

The crisis in recruitment has been made worse by the COVID19 pandemic superimposed on the catastrophe of the opioid epidemic. Live broadcasts by forensic pathologists will not solve recruitment problems overnight: indeed some of the solutions for recruitment are complex and beyond the scope of this article [12]. However, there is nothing to be gained by ignoring the opportunities available on social media to address it. There is ample evidence that early exposure to a specialty is the best way to make sure that the pipeline to training and qualification is kept open and meets its future needs [13]. Given the abbreviated or absent exposures to forensic pathology in medical school and residency [14], the need for alternative exposures such as via live streamed sessions and further along, virtual electives will be helpful.

4.3. Public education

The opportunity to engage in live conversation with experts, public figures and celebrities is one of the main attractions of social media in general and Twitter in particular. In contrast to pre-recorded content, live broadcasts facilitate live capture of audience reaction and interest, which can provide for an informed and engaging conversation. "Live" however does not necessarily imply unrehearsed. If a topic is deemed critical to an organization's vision,

the speakers should be prepared well in advance of the broadcast to explain why the topic is worthy of discussion. It is likely that such broadcasts will not include discussions on particular autopsy cases absent permission from the next of kin. However similar to the success that many autopsy and forensic pathologists have enjoyed while teaching case material on Twitter (and without negative repercussions), the broadcasts could include material related to findings of a general nature. The specific content will evolve and will probably follow the teaching models on Twitter. It is unlikely that more sensitive material will ever be discussed in an open forum and so the issues of security may or now be moot. In all cases but especially where the audience is the general public, the speaker must anticipate and think through possible challenging issues and questions [15]. Whereas in the past the traditional mass media was the content intermediary, the advent of social media enables forensic pathologists to bypass them and take their ideas directly to the general public. A recent example is the confusion expressed by the public (and indeed by some non-forensic pathology professionals, trained physicians among them) over the details presented in the charging document issued by the Hennepin County District Attorney's Office and the actual preliminary summary made by the medical examiner [16] in the death of George Floyd. There were very few sources for the public to turn to in search of clarification and so many on social media (especially Twitter) took the liberty to impugn the competence and independence of the medical examiner and the medical examiner office [17]. While waiting for an annual general meeting to address the issue would have been pointless, and although a few forensic pathologists gave press interviews to clarify the certification of the cause and manner of death, a pattern of established practice and custom of live broadcasts could have made it easier for NAME to assemble a "rapid response" social media team to settle public misgivings in a direct, timely and ongoing manner [18].

As well, given concerns about the so-called CSI effect and the scientific literacy of the public (and therefore jury pool) [4,19,20], these broadcasts could also provide an opportunity for the forensic community to provide continuing general medicolegal education so vital to the integrity of the jury system. Multidisciplinary virtual meetings such as was hosted by the NMA, also lower the barrier to participation for non-forensic pathology medical professionals. These should be exploited as a vehicle to educate those colleagues about the operation of the death investigation system, the conduct of an autopsy and how the forensic pathologist determines the cause and manner of death.

4.4. Research

The move towards evidence-based practice means that more work has to be done to prove or abandon long held theories particularly in an environment where there is suspicion of the medicolegal death investigation system. Many doctrines once considered "scientific" and irrefutable have now been proven unreliable because of peer reviewed research [21]. The specialty has to maintain its credibility, and so more needs to be done to demonstrate that opinions are factual and grounded in rigorous scientific studies; this research should be disseminated aggressively in the public domain to ensure transparency. Note as well that public funding of forensic research as limited as it is, still imposes an obligation to disseminate findings publicly. Publishing the findings in journals, conferences and at specialty meetings has thus far met this obligation. Supplementing them with live participatory broadcasts open to the wider public in language that lay people can understand is a potential force multiplier. For example, having live presentations and frank discussions on the COVID19 pandemic, the operations of a medical examiner's office, or death investigation

protocols will be of public interest. With many households still sequestered at home and with many school openings undecided or going virtual because of the pandemic there is an almost captive audience with which to lay down a marker.

4.5. Technical challenges

The challenges depend on the scale of the broadcaster i.e. individual pathologist or pathologist group versus a large organization such as NAME and the location of the participants. While all intend to reach an audience that is as large as possible, quality is premium when a bigger more influential organization hosts a broadcast. All require high speed internet access with a stable connection and sufficient bandwidth to assure a smooth transmission of voice and images. While a small scale broadcaster would do well with smartphone and a social media account, a larger organization would probably need to invest in high quality stand-alone cameras and microphone equipment especially if the participants are located in one venue. Of course if they are all over the world such as has happened with recent virtual conferences, access to a reliable conference platform is imperative. A reliable conference platform must be able to support a large number of participants, provide a chat feature for messages, be able to record and playback video, be in global use and be able to support multiple platforms including mobile phones [22]. The more popular ones include Zoom, Cisco-WebEx, GoToWebinar and Microsoft Teams to name a few. Security has been an issue with Zoom, so called "zoom bombing" when malicious actors take over and disrupt digital meetings [23]. However if the intent is to broadcast issues of a general nature to an audience composed of non-forensic professionals and the general public, this may not be as critical though of course it can be a major nuisance. Perhaps having participants register before participating will reduce the risks for such disruption. Some degree of expertise on information security will be required to keep limit uninvited intrusions.

5. Limitations of this analysis

The experiment that inspired this paper is limited by its small sample size and fairly short broadcasts (55–146 s). As such, some recommendations may be overambitious. It is also inevitable that some of the viewers were conference attendees. However those concerns can only be addressed by further studies on larger samples designed to determine appropriate ERs in forensic pathology among other Twitter metrics. It would be informative to conduct the experiment in collaboration with other professional organizations in forensic pathology.

6. Summary

Live social media broadcasts of topics of general interest to a general audience are possible and can be conducted in a manner that does not infringe on decedent privacy or judicial processes. If NAME or similar organization is to take advantage of this opportunity to promote the interests of forensic pathology, to stimulate interest in careers in forensic pathology or to just create awareness of the sort of topics that may meet the public's interest, it is important that one aspect of this strategy should include public access to specific presentations [15]. Open access platforms such as Twitter permit forensic pathologists to present their stories and issues unfiltered with the bonus of live feedback. Other apps such as Facebook Live and Instagram also permit live broadcasts simply by having internet access and opening a free account. Much of the guidance for how these broadcasts should proceed comes from world of mass communications [15]. Given our issues with

recruitment, research and public knowledge, we as a professional group have to be creative and unorthodox.

7. Conclusion

Professional associations of forensic pathologists such as NAME that advocate on behalf of forensic pathologists should consider expanding the role of live broadcasts of certain critical issues to a general audience. There are software applications that facilitate this from free packages to affordable rates. At a time when the specialty faces issues of recruitment, a lack of awareness of the true workings of the medicolegal system and competition for scarce research funds, these organizations need to deploy the many broadcast tools of social media to their maximum advantage.

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