

FORUM

Harnessing Twitter to empower scientific engagement and communication: The ISTH 2020 virtual congress experience

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Abstract

As a result of the coronavirus disease 2019 pandemic, the International Society on Thrombosis and Haemostasis (ISTH), like many societies around the world, canceled their in-person hematology congress planned for Milan, Italy, in July 2020. As a result, the first virtual ISTH congress in the organisation's 51-year history was delivered, inviting free registration from across the globe. As part of the social media support, marketing, and scientific dissemination efforts for the virtual congress, the ISTH assembled a group of official Twitter Ambassadors, which represented the broad and

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diverse ISTH community. Ambassadors were tasked to tweet daily throughout the congress and to share their commentary on the hematology research being presented with the “#ISTH2020” hashtag. Ambassadors were also supported by Twitter activities from the two official ISTH-affiliated journals: the *Journal of Thrombosis and Haemostasis (JTH)* and *Research and Practice in Thrombosis and Haemostasis (RPTH)*. In this forum and through the Twitter ambassadors’ lens, we present the Twitter Ambassadors’ experience, reflect on the impact of social media on the ISTH 2020 congress, and share this experience with the wider scientific community. Specifically, we report on the role of Twitter communication for virtual meetings, discuss the pros and cons of the virtual congress, and offer Twitter-related recommendations for future virtual or blended congresses. We conclude that the ISTH Twitter Ambassador program broadened social media engagement and offers a novel route to improve social connectivity in the virtual research congress setting.

KEYWORDS

communication, COVID-19, hematology, research, social media

Essentials

- The first-ever virtual International Society on Thrombosis and Haemostasis (ISTH) congress was implemented due to the coronavirus disease 2019 pandemic.
- The ISTH invited a diverse group of official Twitter Ambassadors to support the congress.
- The program proved successful with increased tweets, impressions, and engagement for #ISTH2020.
- Social media offers an alternative to in-person discourse, assisting engagement for virtual events.

1 | INTRODUCTION

The severe acute respiratory syndrome coronavirus 2 has caused illnesses in over 65 million people with >1.5 million deaths worldwide between December 2019 and November 2020, with numbers continuing to rise (<https://coronavirus.jhu.edu/map.html>). The emergence of the coronavirus disease 2019 (COVID-19) pandemic is an unprecedented event with a global impact that has the potential to define the 21st century. Undoubtedly, the short and long-term repercussions have hit almost all aspects of human life across the globe, including health, economy, science, culture, and social reforms.¹⁻²

As the impact of the COVID-19 pandemic evolved worldwide, the International Society on Thrombosis and Haemostasis (ISTH) announced on March 25, 2020, that the in-person congress planned for Milan, Italy, in July 2020 would be canceled. A virtual meeting was proposed in lieu of the traditional format, the first-ever such meeting in the hematology society’s 51-year history. To encourage engagement and participation from the global scientific community, registration fees were waived for all participants.³

While it was expected that the benefits of in-person meetings would be missing with a virtual congress, many other challenges quickly became apparent. These include variable access to reliable internet, limited bandwidth for concurrent sessions, all-day session schedules, and challenges with varying time zones across the globe.

The local organizing committee, supported by the ISTH council, ISTH president, ISTH 2020 congress co-chairs, ISTH headquarters team, and a superb technical team, are to be commended for delivering the congress (<https://www.isth2020.org/>) despite all limitations. In addition to the main focus of bringing the latest in basic and clinical research in the various fields of thrombosis and hemostasis through the plenary lectures as well as the state-of-the-art and oral communications presentations, there were live interactions with moderators, presenters, and field experts, complemented by 2374 abstracts and 1912 interactive e-posters (www.academy.isth.org). Additionally, live or recorded supported symposia, virtual industry exhibitions, product theater presentations, and online networking opportunities encouraging the discussion of the newest research and trends with peers and leaders in the field helped contribute to the success of the ISTH 2020 virtual summit.

As part of the social media support, marketing, and scientific dissemination efforts for the virtual congress,⁴ the ISTH assembled a group of official Twitter Ambassadors, a diverse group that encompassed and represented the broad ISTH community: trainees, early-career clinicians and scientists, senior members, and experts with diverse geographic locations, subspecialties, interests, and expertise. Ambassadors were tasked to tweet daily throughout the congress to share their commentary on the science being presented as well as the overall “#ISTH2020” experience. Topics of interest

to each Ambassador were included in promotional materials, but Ambassadors were not limited to these areas. Ambassadors were also supported by Twitter activities from the two official ISTH journals: the *Journal of Thrombosis and Haemostasis* (*JTH*; <https://www.isth.org/page/JTH>) and *Research and Practice in Thrombosis and Haemostasis* (*RPTH*; <https://www.isth.org/page/rpth>).

From the congress outset, the energy, engagement, and impact of the congress exceeded expectations. The Twitter Ambassador team, most of whom have never even met physically, decided to share this unprecedented experience with the scientific community. Through a Twitter Ambassadors' lens, we aim to present our experience, reflecting on the impact of social media on the ISTH 2020 congress and engagement with the wider scientific community in this novel virtual setting. The role of Twitter in a virtual meeting, as well as the pros and cons of the virtual congress format are discussed. Recommendations for enhancing social media engagement at future congresses based on our experiences are presented.

2 | METHODS AND DATA ANALYSIS

Specific data on congress attendance was supplied by the ISTH Registration and Marketing team and was analyzed using descriptive statistics. Twitter hashtag usage was analyzed using Symplur Analytics (<https://www.symplur.com/>). Data from Twitter accounts of the two ISTH affiliated journals, *JTH* (@JTHjournal) and *RPTH* (@RPTHjournal) was analyzed for engagements and impressions. It is important to mention the #CoagCapsule, which tagged *RPTH* live tweets of state-of-the-art presentations given by authors of their annual State-of-the-Art Illustrated Capsules article.⁵⁻⁶ Twitter surveys were conducted during the ISTH 2020 congress using the account of a Twitter Ambassador (@sortoutbleeding). Of note, ISTH congress transitioned in 2019 to an annual congress with an embedded Scientific and Standardization Committee (SSC) meeting rather than every-second-year main congress and alternate-year stand-alone SSC meeting. Thus, the data analyzed here were restricted to the main congress (not including the SSC sessions), during which the Twitter Ambassador program was active and also to avoid unfair comparisons of different years.

3 | RESULTS AND DISCUSSION

3.1 | Observations on attendance and participation

The degree to which the global audience would participate in a novel ISTH congress approach was uncertain. The previous congress attendance record was held by the 2017 ISTH congress in Berlin, with over 9500 registrations.⁷ In Toronto, in 2015, there were over 7000; and in Amsterdam, in 2013, there were over 7800 attendees. For the 2020 virtual congress, unlike previous congresses, registration was free to all participants, easily accessible, and included both live

and on-demand participation to ensure a great attendee experience. Increased accessibility also meant that barriers such as the cost to travel and the time needed to be away from regular research or clinical activities, were partially, if not completely, eliminated. The difference in global time zones, however, still created a disadvantage/challenge for the Australia region.

It appears that many of these benefits were reflected in registration, attendee numbers, and demographics. The registration for ISTH 2020 vastly exceeded all previous congresses, with over 12 000 registrants from 135 countries attending the live virtual event (Figure 1A). Overall, at ISTH 2020, online participation averaged 7372 participants per day (range, 6561-8119), indicating a high level of virtual activity throughout the congress. The global distribution of delegates was broader than 2019 in Australia, with more attendees from developing versus developed countries; in 2019, 1411 (30%) of participants were from developing countries compared to 4983 (41%) in 2020. For a comparative analysis, the attendance for the past 5 ISTH congresses are presented in Figure 1B. For clinician/researchers, it was observed that although attendance had increased in comparison to the 2019 congress in Melbourne, it did not surpass the Berlin congress (2017). This may reflect the difficulty of setting aside time in one's own workplace to attend a virtual conference, particularly during the pandemic. Alternatively, the in-person attendance in Berlin may have been boosted by the large representation of clinician/researchers within thrombosis and hemostasis in Europe. The trainee attendance (postdoc, resident, student) was also substantially increased for ISTH 2020 compared to previous congresses (Figure 1C). Whether this is related to the lack of registration and travel costs or the ease of online accessibility is unclear. An improved understanding of the reasons underpinning enhanced trainee attendance at the 2020 congress would be beneficial to continue to advance attendance from this demographic into the future.

3.2 | Twitter analytics and survey data

As a potential consequence of the ISTH 2020 congress being held virtually rather than in person, an increased presence on social media, especially Twitter, was observed. Both the total number of tweets including #ISTH2020 and number of impressions (the number of times a tweet is seen on a Twitter user's timeline) of tweets with #ISTH2020 were substantially increased in comparison to #ISTH2019 (Figure 2A-B). These data were mirrored in social media interactions from *JTH* and *RPTH* Twitter accounts that interacted with the broad ISTH Twitter community through commentary and highlighting the talks being given. Analysis of Twitter data focused on engagement (when a Twitter user actively interacts with a particular tweet; eg, "like" or "retweet" or "quote") and impression (a tweet appears to users in either their timeline or search results). The average engagement rate per day for *JTH* at ISTH 2020 was 4.24% compared to 3.59% at ISTH 2019 (18% increase). Similarly, for *RPTH*, engagement rates increased significantly at ISTH 2020 from 4.99% in comparison to 2.57% at ISTH 2019 (95% increase). Overall, impressions per day for *RPTH* were higher for ISTH

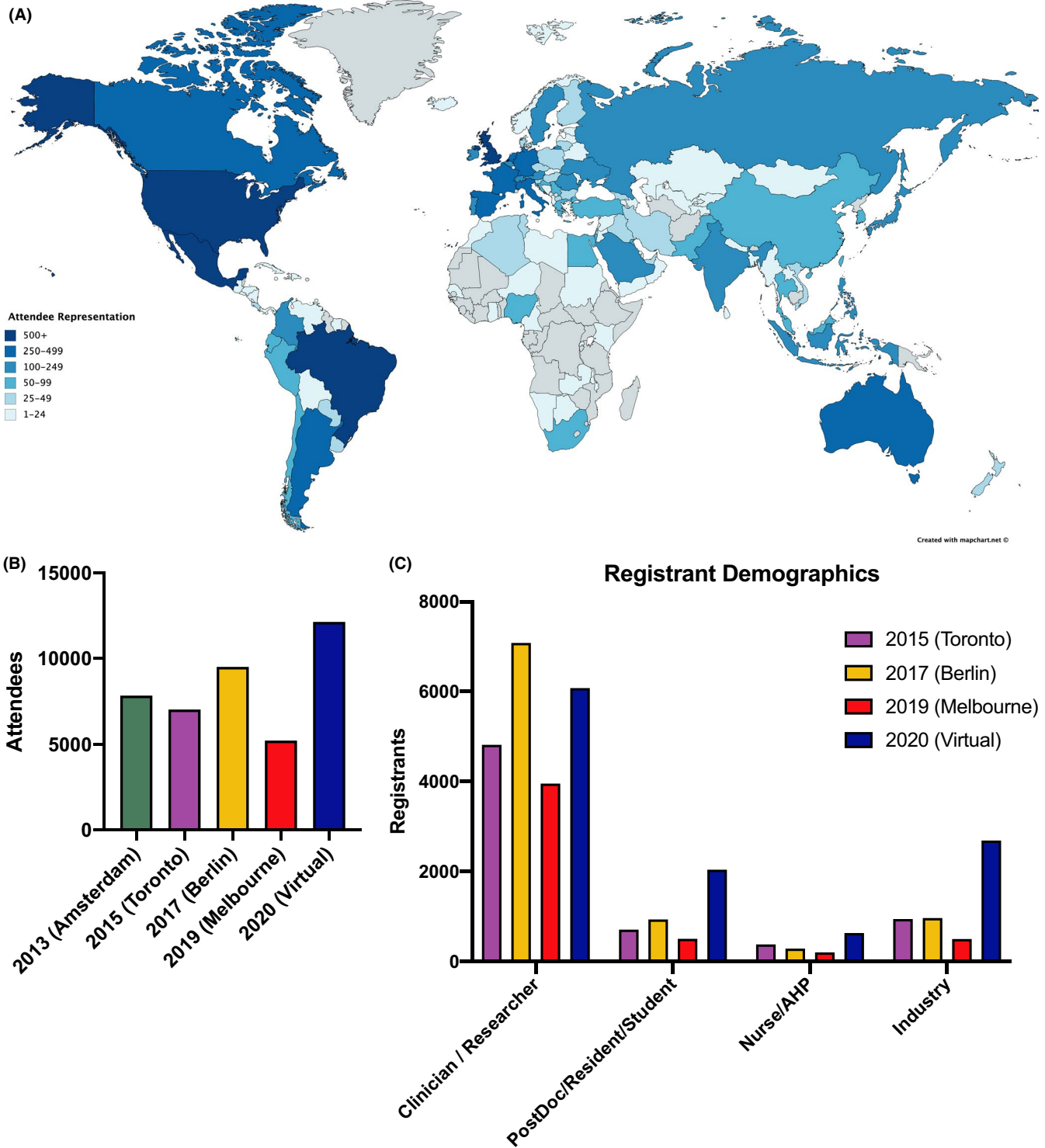


FIGURE 1 A, Global distribution of ISTH 2020 congress registrants. B, Total attendance in ISTH Congresses between 2013 and 2020. C, Comparative analysis of the Congresses attendee demographics between 2015 and 2020. Demographic details were not available for the 2013 congress and thus were not included

2020 (37 557) versus ISTH 2019 (32 079), with similar trends being observed for *JTH* as well (15 352 vs 1192, respectively) (Figure 2C-D). Collectively, Twitter data from all Twitter Ambassadors and ISTH journals are highlighted in Table 1.

Reflecting on both the advantages and disadvantages of the virtual congress format, we used Twitter surveys to assess the opinion on the optimal future conference design. An initial survey with 210 respondents favored in-person (67.6%) rather than virtual

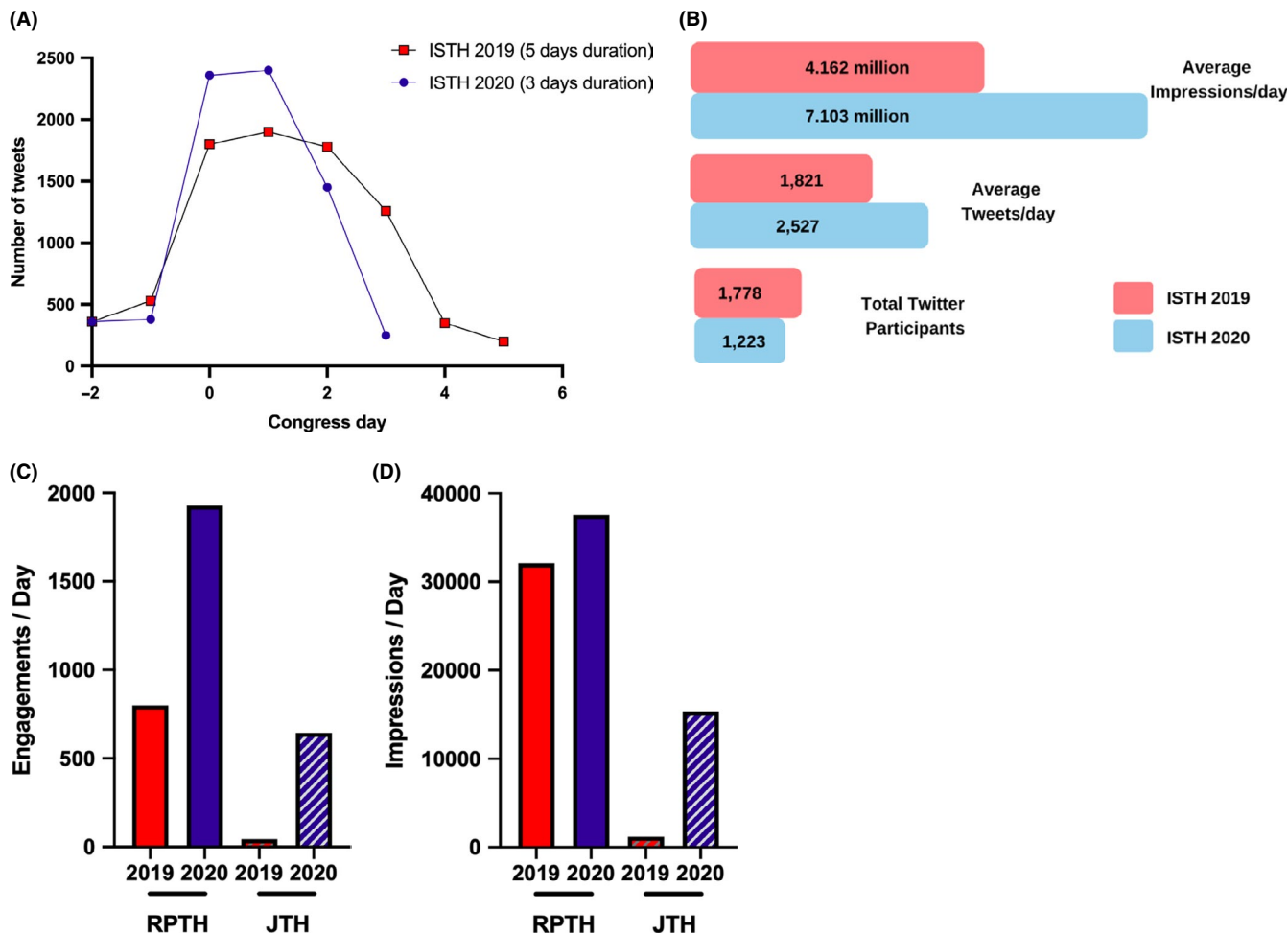


FIGURE 2 A, Number of tweets per conference day using the #ISTH2019 (red squares) or #ISTH2020 (blue circles). B, Average impressions/day, tweets/day and Twitter participants using the hashtags #ISTH2019 or #ISTH2020. C, Comparative analysis of the ISTH 2019 (red) and 2020 (blue) Twitter engagement data from the @RPTHjournal (solid colors) and @JTHjournal (hatched colors) accounts. D, Comparative analysis of the ISTH 2019 (red) and 2020 (blue) Twitter impression data from the @RPTHjournal (solid colors) and @JTHjournal (hatched colors) accounts

congresses (32.4%).⁸ However, in this initial poll, many respondents suggested a blended format in text replies, with online sessions (eg, state-of-the-art, plenary) held in parallel to the traditional in-person meeting. In a second survey comparing blended versus in-person format,⁹ a clear preference for a blended approach was identified (88.2%), albeit numbers of survey participants were limited (68 respondents).

3.3 | Twitter Ambassadors' tips

The #ISTH2020 Ambassadors' role was to promote the congress on social media, the team has certainly learned from both the experience and from each other. For those less familiar with social media platforms, we have compiled some general tips categorized by three themes that can be applied to any virtual conference (Table 2).

We hope that expanded use of social media from more delegates will continue to enhance the connectivity of the hemostasis community through these fractured times.

4 | FUTURE DIRECTIONS/ RECOMMENDATIONS

While a perfect replacement to an international in-person congress may not exist, the advantages of a virtual format cannot be ignored. The COVID-19 restrictions to physical conferences are unlikely to last forever. However, based on the ISTH 2020 virtual experience, we would like to provide ISTH and the research community three main suggestions/recommendations for future congresses.

4.1 | Virtual or in-person congress?

While the virtual congress still ensures dissemination of scientific data, a major compromise with any virtual congress with the lack of in-person interactions, providing a level of personal connection that is challenging to replicate online. Although conference-related travel is time consuming and costly, the lack of dedicated time for conference attendance may limit engagement or participation due

TABLE 1 A comparison of Twitter data from Ambassadors and ISTH journals between ISTH 2019 and ISTH 2020

Ambassadors	Twitter handles	Tweets Average/day		Impressions Total		Engagements Total	
		2019	2020	2019 (5 days)	2020 (3 days)	2019 (5 days)	2020 (3 days)
Ainle	@fniainle	8.8	14.7	53 488	58 170	2215	3593
Barnes	@GBarnesMD	6.2	22.0	59 396	70 965	2338	3693
Comer	@Shane_Comer1	n/a	22.0	n/a	62 294	n/a	2758
Connors	@connors_md	4.4	35.7	22 252	108 679	845	5197
Cormier	@_MatthewCormier	2.0	26.7	8044	34 535	703	1992
Denorme	@FrederikDenorme	0.6	11.7	3880	36 285	193	2205
Khorana	@aakonc	2.4	8.7	34 981	35 136	1099	1654
Las Casas	@pedrohlasacas	n/a	19.7	n/a	27 656	n/a	2057
Lavin	@sortoutbleeding	11.2	9.7	49 442	46 765	2132	3424
Morla	@ShravanMorla	n/a	6.7	n/a	11 254	n/a	503
Muia	@joshuamuia	n/a	15.0	n/a	27 774	n/a	1169
Othman	@MahaOthman8	1.8	20.7	6241	35 503	389	1369
Taylor	@Dr_KTaylor	n/a	15.3	n/a	35 011	n/a	1821
van der Wal	@DianvanderwalDr	8.6	40.0	20 698	56 572	879	2724
Weyand	@acweyand	n/a	8.3	n/a	85 337	n/a	6171
JTH	@JTHjournal	1	10	5959	46 056	226	1932
RPTH	@RPTHjournal	35.8	27.7	160 396	112 672	3999	5782
Total		82.8	359.6	424 777	890 664	15 018	48 044

Abbreviations: ISTH, International Society on Thrombosis and Haemostasis; n/a, not applicable.

to conflicting work and/or family requirements. To encourage the broadest participation possible, we believe a blended model where some live-stream sessions alongside physical attendance could achieve the best of both worlds. Various congress registration fee categories could be generated to provide flexibility and meet various needs across the globe to maximize attendance and benefits. This will accommodate those with financial and time constraints and ultimately promote attendance from the broader ISTH community.

An alternating schedule of virtual and blended/in-person congress may also be considered. Creating pre-congress social media experiences such as how to register, network, promote your research online (especially catered for early-career researchers), sneak peeks of scheduled sessions and topics is likely to set the stage and facilitate better networking during the congress.

4.2 | Communication is key

We recommend emailing all information on “how to navigate the virtual meeting” before the congress and having all congress information in one location, as opposed to multiple websites or emails, to promote participation and enhance attendees' experience. Follow-up surveys should not only capture experiences, needs, and suggestions but also be used to refine and hone the format. ISTH can also educate and guide attendees about the value of a virtual congress and

how to showcase one's research. Social media task forces may be more effectively used to support the virtual congress through the collection of user handles in conference registration, promoting the congress both in advance and throughout, providing training on the use and benefits of social media for education and networking, focusing on supporting engagement from other disciplines.

4.3 | The congress on the web

A virtual congress would benefit from a “one platform for all” base—a more user-friendly platform that links all websites together, including iPlanner linked with abstracts and posters. Attendees would benefit from a user-friendly and a possible live venue to engage socially in the virtual space. This can be achieved via the ISTH application (as in previous conferences) or other platforms. We also suggest a live chat option during e-poster sessions for better interaction and engagement.

5 | CONCLUDING REMARKS

We have provided the Twitter highlights of the ISTH 2020, the first-ever ISTH virtual congress, based on the Twitter Ambassadors' experience. We shared our observations and views and reflected on the experience. We believe virtual congresses can be successful

TABLE 2 Twitter Ambassadors' tips: suggestions to enhance Twitter impact for a virtual congress categorized by themes

The content	The Art of Tagging	Tools and Target Audience
Use visual or cartoon with a short key message/summary.	Tagging speakers, ISTH-affiliated journals, institutions and international bodies helps reach a broader audience.	Consider running two systems simultaneously: one to tweet and one to watch sessions (eg, phone and laptop).
Including your questions or interpretation of the data helps exchange views and share insights despite the physical distance.	Combine high-level hashtags with others to increase impact.	Determine your audience for each tweet and target different tweets for different audiences; for broader audiences, tweets with more general messages are advised. Retweet to cater for different time zones (Australasia).
Tweeting about topics outside your specialty and tagging anyone who might be interested enhances interdisciplinary engagement and collaboration.	Use additional and scientific/appropriate hashtags and keep using them, eg, #bleeding or #platelets.	Consider a balance between "live tweets" and "post summaries." The latter can be more informative.
Adding some personal life experiences to tweets, like "how I congress," enhances your visibility and presence.	Tag (other) ambassadors to amplify your message.	Use of mentions, trending, and relevant hashtags that encompass the conference will enhance Twitter impact of both the individual tweet and the congress. Use multiple online platforms to broaden the outreach.

Abbreviation: ISTH, International Society on Thrombosis and Haemostasis.

with proper planning and promotion. Some scientists have also shared their perspective and agreed that conferences could become more affordable and more inclusive if virtual events become part of "the new normal".¹⁰ The ISTH Twitter Ambassador program has proven successful in serving the congress and the attendees, can support future congresses, and the experience can be applicable to other disciplines.

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AUTHOR CONTRIBUTIONS

MO developed the concept and the design of the manuscript and contributed to the analysis, interpretation, tabulation of data and writing and revision of content. MC gathered, tabulated, and

analyzed ISTH, *JTH*, and *RPTH* data and contributed to the graphical illustration and interpretation of data and writing and revision of content. GDB, SC, JMC, AK, JM, and FNA contributed to the concept and writing and revision of content; FD, PHLC, SM, KT, DVW, and AW contributed to the concept, analysis of Ambassadors' experience, and writing and revision of content. ML contributed to the concept and analysis, interpretation and graphical illustration of data, and writing and revision of content.

RELATIONSHIP DISCLOSURE

The authors declare no conflict of interest.

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