

Lessons Learnt from Operationalizing an International Collaborative Multi-Centre Study

Rhea Raj,¹ Catherine Dominic,² Suraj Gandhi,³ Elliott H Taylor,⁴ Marina Politis,⁵ Syeda Namayah Fatima Hussain,⁶ Divya Parwani,¹ Soham Bandyopadhyay,⁴ Noel Peter,⁴ Kokila Lakhoo.⁴

The Experience

Clinician scientists are a varied group of healthcare professionals with roles in research and/or teaching alongside their clinic work.¹ They play a key role in implementing research findings into clinical practice. Given their importance, there is growing concern regarding the decline in the number of healthcare professionals seeking to pursue a career as a clinical scientist.² To tackle this issue, several initiatives to promote research activities among medical students have been launched to inspire the next generation of clinician scientists. They have ranged from incorporating publications and presentations into requirements when hiring for new positions³ to the creation of research mentoring schemes.⁴ Since active learning has long been known to be the optimum mechanism through which individuals learn,⁵ students have been enthusiastically encouraged to conduct their own research. Indeed, students have shown they can run national collaborative research studies effectively, with extensive protocols detailing how the studies were conducted.⁶ However, there is a lack of literature on how students can get involved in international research studies. To our knowledge, there is no published literature on students operationalizing an international collaborative multi-center cohort study. This article details the experience of a group of students who participated in leading roles in an international multi-center study run by the Global Health Research Group on Children's Non-Communicable Diseases (Global Children's NCDs) during the COVID-19 pandemic. Many lessons have been learnt from the successful operationalization of this study, which we hope to impart in this article.

Due to a lack of ability to travel or network in-person during the pandemic, to conduct this study effectively we had to mobilize attention and participation through effective use of

online methods. We created a WhatsApp group for each operational team and its respective members. This allowed us to communicate the team goals and offer guidance and motivation. As operational team leaders, this method proved effective, as it allowed us to systematically organize and delegate tasks to group members. While an application tool such as Slack may have allowed for more streamlined communication, the use of WhatsApp reduced any barriers to inclusion for a global team. All members were familiar with WhatsApp; the same was not true for Slack. Creating an inclusive environment was felt to be imperative for the success of a global collaboration, and WhatsApp was pivotal to this. Additionally, having an instant messaging platform as our communication tool enabled us to solve problems and provide constructive feedback to team members in a timely fashion throughout the duration of the study. Social media was also found to be the optimal method for recruiting global collaborators in the circumstances of the pandemic. This involved creating a public-facing image and communicating ideas from our protocol using graphics. We designed graphics to promote the objectives of the study and raise awareness about the importance of pediatric cancer research. Our graphics proved incredibly successful in generating interest, with Twitter analytics revealing they had yielded 43,500 impressions and prompted 4,679 visits. Developing our graphic design skills was not only beneficial for the current project, but will likely become increasingly important in our globalized world as we become progressively reliant on using online platforms to communicate ideas and generate interest. Studies have already highlighted how important Twitter is in generating interest for academic articles,⁷ and the effect of social media in generating interest can be enhanced with the use of graphics, such as visual abstracts.

¹ Medical student. St. George's University School of Medicine, Grenada, West Indies

² Medical student. Barts and the London School of Medicine, Queen Mary University of London, United Kingdom

³ BSc (Hons). Leicester Medical School, University of Leicester, United Kingdom

⁴ BSc (Hons). Oxford University Global Surgery Group, Nuffield Department of Surgical Sciences, University of Oxford, United Kingdom

⁵ Medical student. School of Medicine, University of Glasgow, United Kingdom

⁶ Medical student. Liaquat National Hospital and Medical College, Pakistan.

⁷ BMedSci (Hons) BMBS DipSportsMed (UK) FRCS (Tr & Orth). Oxford University Global Surgery Group, Nuffield Department of Surgical Sciences, University of Oxford, United Kingdom

⁸ PhD FRCS (Edin+Eng), FCS (SA), FCS (PAED), MRCPCH(UK), MBChB Oxford University Global Surgery Group, Nuffield Department of Surgical Sciences, University of Oxford, United Kingdom

About the Author: Rhea Raj is currently a second-year medical student at St. George's University School of Medicine, Grenada, West Indies of a 4-year program.

Correspondence:

Rhea Raj

Address: St. George's University School of Medicine, Grenada, West Indies

Email: aaravpaul3422@gmail.com

Editor: Francisco J. Bonilla-Escobar

Student Editors: Najdat Bazarbashi

Diego Carrion Alvarez

Copieditor: Adam Urback

Proofreader: Ciara Egan

Layout Editor: Anna-Maria Chantaliyska

Submission: Mar 15, 2021

Revisions required: Jun 9, 2021

Responses: Jun 14, 2021

Acceptance: Aug 18, 2021

Publication: Aug 30, 2021

Process: Peer-reviewed

Once the collaborative network had been created, it was essential for us to maintain it and provide direction to over 1,000 interested researchers spread across 100 different countries. As a first step, we decided to designate one individual in each research center as the local study coordinator. Our next step involved connecting other collaborators with their respective local study coordinator. To ensure an effective workflow, a collaborator network database was created and organized by continent, country, and hospital. This structure also allowed for identification of regions where we had yet to generate interest, and therefore facilitated a targeted recruitment drive that aimed to maximize the number of countries captured within our collaborative network. Given the high volume of recruitment, multiple medical students needed to be involved in this part of the operational team to maintain the workflow. This posed an internal communication challenge to ensure that all members of the team were aware of the latest developments, and how to address and answer any questions or concerns. We employed two tools that were indispensable in meeting this challenge. First, a regularly updated online guide which contained algorithms for addressing common scenarios. Second, a series of template emails which could be edited to quickly address common scenarios in a standardized format. Whenever a new issue arose, it was escalated to a senior member of the team. Once we had a solution, the guide and template emails were updated to reflect this, and the solution was integrated into these to ensure the process was streamlined. Developing a team of medical students proficient in multiple languages also aided in the translation of documents and communication with collaborators who did not speak English.

We also recognized that several of our collaborators had never navigated the process of gaining ethical approval

locally. As such we set up a research support team. Our aim here was to ensure that collaborators felt supported in their efforts to gain the necessary approvals to participate at their institution as per their local ethical regulations. The novelty of our research support team was that it was composed of medical students, albeit supported by academics and clinicians. Previous research has highlighted that near-peer teaching benefits students by increases understanding as well as by fostering more comfortable learning and interpersonal connection.^{8,9} In conducting this approach, we hoped collaborators would develop transferable skills and the confidence to use what they gained from this study in their own future work. The skillset and awareness developed from this experience will allow us to feel more comfortable in leading our own studies in the future and supporting future generations of medical students.

In summary, being involved in running an international, multi-center cohort study provided an invaluable learning opportunity. Developing our ability to communicate scientific knowledge and the importance of a study through online channels will be useful in our future academic careers. Similarly, logistical management is important in any large-scale study, and developing an awareness of how to do this effectively at an early stage is valuable. The decline in interest in clinical academics is an international problem and there is a need for international mentorship to address this problem. Students can define the future of global research. Thus, it is imperative that they have the opportunity to develop skills at an early stage and learn from their mistakes. We actively encourage senior academics and policymakers to recognize the value of having medical students involved in leading international studies in order to facilitate the development of future clinician scientists.

References

1. BMA's Medical Academic Staff Committee (MASC). The Role of the Clinical Academic. British Medical Association. April 2014.
2. Meador KJ. Decline of clinical research in academic medical centers. *Neurology*. 2015 Sep 8; 85(13):1171-1176.
3. Borrelli MR, Farwana R, Gundogan B, Al Omran Y, Pidgeon TE, Agha R. How to apply for the academic foundation programme. *Ann Med Surg (Lond)*. 2018 Feb 2;29:5-9.
4. Gandhi SM, Ravi K, Jalloh-PA-R F, Peter N, Lakhoo. Building sustainable and consequential research capacity within a global alliance of paediatric surgical centres. *Pediatr Surg Int*. 2021 May 37, 677-678.
5. Deslauriers L, McCarty LS, Miller K, Callaghan K, Kestin G. Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom. *Proceedings of the National Academy of Sciences*. 2019 Sep 116(39):19251-19257.
6. InciSioN UK Collaborative. Global health education in medical schools (GHEMS): a national, collaborative study of medical curricula. *BMC Med Educ*. 2020 Oct 20, 389.
7. Oska S, Lerma E, Topf J. A Picture Is Worth a Thousand Views: A Triple Crossover Trial of Visual Abstracts to Examine Their Impact on Research Dissemination. *J Med Internet Res*. 2020 Dec 4;22(12):e22327.
8. Burgess A, McGregor D, Mellis C. Medical students as peer tutors: a systematic review. *BMC Med Educ*. 2014 Jun 9;14:115.
9. Yu TC, Wilson NC, Singh PP, Lemanu DP, Hawken SJ, Hill AG. Medical students-as-teachers: a systematic review of peer-assisted teaching during medical school. *Adv Med Educ Pract*. 2011 Jun 23;2:157-72.

Acknowledgments

Thank you to all our collaborators from our country leads to the members of our local teams for driving this study forward. Thank you to the members of the operational team of the Global Health Research Group on Children's Non-Communicable Disease.

Conflict of Interest Statement & Funding

The Authors have no funding, financial relationships or conflicts of interest to disclose.

Author Contributions

Conceptualization: RR, CD, and SB. Methodology: RR, CD, and SB. Validation: SB. Data Curation: RR, CD, and SB. Resources: SB. Writing – Original Draft: RR, CD, SG, EHT, MP, SNFH, DP, and SB. Writing – Review & Editing: RR, CD, SG, EHT, MP, SNFH, DP, SB, NP, and KL. Visualization: RR, CD, and SB. Supervision: SB, NP, and KL. Project Administration: RR, CD, and SB.

Cite as

Raj R, Dominic C, Gandhi S, Taylor EH, Politis M, Hussain SNF, et al. Lessons Learnt from Operationalizing an International Collaborative Multi-Centre Study. Int J Med Students. 2021 Jul-Sep;9(3):242-4.

This work is licensed under a [Creative Commons Attribution 4.0 International License](#)

ISSN 2076-6327

This journal is published by the [University Library System, University of Pittsburgh](#) as part of the [Digital Publishing Program](#) and is co-sponsored by the [University of Pittsburgh Press](#).

