Collaboration with non-emergency care specialists and other emergency care providers: A research primer for low- and middle-income countries

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ABSTRACT

As emergency and acute care systems develop, the ability to broadly engage key stakeholders becomes paramount for success. Collaborating with emergency medicine clinicians as well as other providers who have already developed their specialties, administrative leadership, as well as networking locally and regionally would maximise the success of developing a sustainable emergency care system.

The International Federation for Emergency Medicine global health research primer

This paper forms part 3 of a series of how to papers, commissioned by the International Federation for Emergency Medicine. It describes collaboration with emergency medicine clinicians as well as other providers who have already developed their specialties, administrative leadership, as well as networking locally and regionally. We have also included additional tips and pitfalls that are relevant to emergency medicine researchers.

Background

Developing new emergency and acute care systems is an endeavour that will require multifaceted work. This can be integration into a non-existing or suboptimal care system, a system with some structure, or in more developed settings disrupting an already existing healthcare structure. In any stage of this process, the ability to successfully navigate interactions with emergency medicine (EM) colleagues, other specialists, as well as those not related to the field of emergency care, but who are decision makers and stake holders in this process (such as administrators, government agencies or health care legislators), is a necessary skill.

It is important to recognise the unique challenges emergency care research faces as the first step in developing collaborations. To ensure success with colleagues, other health care providers, government agencies, and sponsors it is vital to educate them about the unique challenges faced in doing research in areas with limited resources and to develop solutions [1].

Discussing the need for developing emergency and acute care systems with collaborators will help drive decision making and impact the way emergency care is delivered by standardising practices and offering outcome-based data that can support system development [2].

EM has a unique role in addressing the global burden of disease. Over the last decade, many countries and regions including low- and middle income countries (LMICs) are developing emergency care systems. EM researchers are uniquely situated to lead development efforts and help dictate research priorities [1]. However, EM research is lagging behind in its scientific approach to identifying critical knowledge gaps and developing evidence-based solutions. There is also limited access to already published literature for researchers in resource limited settings [3]. Successful EM research can impact the way healthcare is delivered as new global acute care systems develop. Identifying gaps in EM education and developing locally sustainable systems with limited resources will lead to evidence-based practices for patient care within communities.

Communication between EM and non-EM providers can shine a light on best practices and help create collaborations for:

- Developing patient care consensus practices
- Demonstrate the benefit of acute and emergency care system development

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- Create local, regional and national research networks that can foster collaboration and lead EM advancement

Importance of collaborations

The World Health Organization made a consensus statement on the importance of emergency and trauma care asking countries to develop emergency health care delivery systems [4].

As EM and acute care systems develop worldwide, there has been increased interest in knowledge exchange. This can be achieved by sharing how existing systems are modelled, or sharing information related to the practice of clinical EM such as practice guidelines and outcome related research. As EM and globalisation develop in parallel, there are increasing numbers of models of information exchange, for example regional academic conferences bring together national and international EM societies and opens arenas for research networks to generates knowledge exchange [5,6].

Known barriers to clinical research

Barriers are common across all areas of research, and include insufficient training, lack of time, and inadequate funding among many others. This might be particularly challenging in areas where EM is just developing and all of these prove even more challenging [7,8]. Options to address these barriers could be developing standardised educational curricula, developing consensus documents and needs assessments highlighting research priorities, incorporating regional frameworks for collaboration, built in flexibility to scale projects in different settings, and developing ways to amplify information sharing [9,10].

Advantages of creating research collaborations

By developing a collaborative group with research priorities, teams can generate higher impact as a result of ability to recruit a larger numbers of study subjects, potential for multiple funding sources, and division of work among researchers accommodating for the varied schedule and time constrains commonly present in EM research. Different members of the collaborative group might have skills which other lack (such as statistical knowledge, writing skills, capacity to find funding, or presentation skills) and this can complement the team effort. Evaluating and utilising research networks allow for increased research capacity and evidence-based education, especially in regions where there is limited research experience [11].

How to create research collaborations

It is important to carefully assess the time and resources that would be required for a potential collaborative project. Next, you need to decide whether it fulfils a specific need in your research area of interest and if it will help you achieve your career objectives.

Whether you're setting up a research collaboration or participating in someone else's project, it's a good idea to develop a framework in a formal document which is often called a "collaboration agreement". These contracts are most commonly used in large and medium-sized collaborations, or in partnerships with industry. However, you can choose to create a written collaboration agreement for a project of any size and scope. Having transparency about the intentions of the project and expectations of each person involved shows professionalism and builds trust. Your collaboration agreement can outline the key goals for the project, timelines for each step, roles and responsibilities for each person involved, intellectual property, and authorship for any written outputs such as publications. Discussing, agreeing, and documenting these things at an early stage helps to ensure that there are no surprises throughout the process.

Clear and regular communication is crucial to the success of any research collaboration. If you are leading a project it is crucial to communicate delays or problems. These should not be seen as 'admitting failure' but rather as an opportunity for open communication and solving any issues that arise. Knowing about a delay as early as possible will be useful for the leader of the collaboration and enables them to adapt the timeline or task-list accordingly for those impacted.

Common outputs of collaborative efforts include scientific publications, preprints, datasets, conference presentations and posters. These should be built into your collaboration framework and management plan. There are additional types of outputs to help you generate value and impact. Creating a website can help you communicate your results to the public and make your project more visible and accessible to other researchers and potential collaborators. This can also be a good place to share other research outputs that may be part of your research, such as images, maps, videos, or animations.

One of the great assets of collaborative research is the innovation that comes from bringing together researchers of different backgrounds, experiences, and perspectives. Sometimes it can seem hard to adapt to different ways of thinking and working but being flexible and open to new ideas will allow your research more chances for success.

Lessons learned through collaboration

When attempting to develop collaborative networks several frameworks will prove successful in facilitating the process. First, collaborative endeavours are not always intuitive and usually are a process that requires certain skills and knowledge. Understanding individual strengths and limitations are important, as interactions with colleagues require navigating shared mental models. Second, proficiency in communication, networking, conflict resolution, implicit bias assessment, and goal directed interventions are all skills that require time to master. Networking within and outside your local setting requires developing meaningful connections. The necessitates understanding prospective collaborators research interests, experience, funding sources, challenges, and how working together will allow you to complement each other's strengths to achieve a common goal. Developing and nurturing long-term relationships with researchers in your area of interest enhances productivity. Finally, the development of networks with shared mental models, aims to eventually facilitate a change in mentality and develop a culture of collaboration [12].

Tips on this topic

1. Modelling emergency medicine and acute care systems

The development of EM systems is an ongoing process that has expanded exponentially over the last couple decades. LMIC that are developing their own systems have the advantage and challenge to learn from the experience of more developed systems and adapt it to local needs. Research on this topic could offer insight as to the impact of timely, efficient, and cost-effective.

EM care, and how it impacts both the health of individuals and most importantly its impact shaping policies that have an effect at population levels. We know there is extensive medical literature that supports the efficacy and value for EM systems and patient care delivered by trained EM physicians [6]. Having this wealth of published information will strengthen your position when discussing the development of EM systems with local, regional or national stakeholders.

2. Developing patient care consensus practices

Clinical outcome-based research including new clinical educational strategies will play a key role in the success of these efforts. In order to generate adequate data, gaps in education need to be identified, determine the cost effectiveness of interventions driven by an EM model of care and also pointing out those factors that adversely affect generalised best care practices. Once the initial goal of setting up consensus

practices is achieved, then further research priorities can be developed. Outcome measurements will be useful in identifying successful strategies and also future directions.

3. Collaborate with other non-EM specialists

Emergency physicians and other non-EM specialists need to work together to overcome barriers in the establishment of acute care systems at local institutions. They can work in developing evidence-based care practice guidelines, can collaborate on admission or discharge protocols that can improve patient flow, decrease wait times and eventually impact patient safety. Multiple specialists working in partnership can influence hospital culture, and even have budgetary impact on their projects and services.

4. Create or integrate into regional and national research networks

Worldwide there are several regional research networks. Some are associated with regional or national emergency medicine societies. For example, in the Paediatric EM world, there are several research networks. The umbrella network is The Paediatric Emergency Research Networks (PERN) which represents seven national and regional PEM research networks from Australasia, Europe, Middle East, North America and Latin America. Together, this network has access to over 2 million paediatric EM presentations in over 100 hospitals in most of the world regions. In a similar fashion, other multidisciplinary networks to facilitate large-scale multicentre research exist. Multinational networks such as the Emergency Medicine Education and Research by Global Experts (EMERGE) [8], regional examples such as the European Society for Emergency Medicine (EUSEM) research branch, and subspecialty networks such as the Geriatric Emergency care Applied Research (GEAR) network and the Pan-Asian Trauma Outcomes Study (PATOS) clinical research network.

Pitfalls to avoid

1. Fail to engage stakeholders across disciplines

Development of trust-based relationships and the quality of interactions within a network is of paramount importance for success. Limiting the engagement of possible partners that might offer various knowledge sets and skills might limit the creation of networks especially in a specialty such as EM in which interaction with other specialties is key.

2. Involving collaborators late in research endeavours

Early engagement, clear roles, and setting goals and distribution of tasks at the onset, are important early stages of planning and executing research. Having an open discussion and permanent oversight on collaborators progress can minimise the possibility of distractors from the goals and objectives of the project at hand.

3. Relying exclusively on key individuals to develop research networks

Networks can become extremely over-dependent on key people confident in their skills, and others in the network rely on their work to

an extent that if they were to leave, the entire network would be at risk of failing. Develop a core group than can share the burden of developing, overseeing, and furthermore operationalise the vision of the network itself. Also, develop new leaders to continue the efforts of those initial members. This will enable the network to be more resilient, make it scalable when expansion is needed, and sustainable into the future.

4. Failure to recognise that collaboration is a process that takes time

Successful collaborations are not always intuitive and require constant nurturing, re-evaluation, learning from mistakes and understanding the balance between individual autonomy and group goals. Attempt to learn from mistakes and seek and provide constructive feedback when necessary. Understand that collaboration is a learning process.

Authors' contribution

Authors contributed as follow to the conception or design of the work; the acquisition, analysis, or interpretation of data for the work; and drafting the work or revising it critically for important intellectual content: CEG contributed 80% and ES 20%. All authors approved the version to be published and agreed to be accountable for all aspects of the work.

Declaration of competing interest

The authors declared no conflicts of interest.

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