

# Collaborative Healthcare Research: Some Ethical Considerations

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**ABSTRACT:** *This article reviews some of the ethical aspects of collaborative research. Scientific collaboration has known potential benefits but it's a challenging task to successfully accomplish a collaborative venture on ethically sound grounds. Current trends in international healthcare research collaboration reflect limited benefits for the majority of world population. Research collaboration between scientists of academia and industry usually has financial considerations. Successful cross-cultural and international collaborations have to overcome many regional and global barriers. Despite these difficulties, many scientific collaborations usually begin with an informal meeting or contact. With advancement in global communications, scientists have greater responsibility towards the world community while considering the impact of their collaborative partnerships. I review the basic factors that are required for forging a collaborative partnership and responsible attitudes to sustain the relationship. Finally I conclude that scientists in healthcare research can play important roles beyond collaborations and contribute to bringing harmony, resolving differences across the nations and countries in today's troubled world.*

## Basics

Scientific collaboration is broadly defined as 'the process of working together in pursuit of scientific discovery.'<sup>1</sup> In scientific collaboration, scientists with expertise in different areas of science or disciplines work together as a team for a common goal. Thus collaboration allows scientific investigators to combine their knowledge and use different scientific techniques to address a problem from various angles that wouldn't be possible if they worked individually using a single experimental approach. Collaborative research thus has the potential to lead to a high quality of knowledge and

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scientific discovery. The potential and scope of international scientific collaboration is well recognized in almost all areas of medical and health sciences research. Growing collaboration in recent years is reflected by increased number of internationally co-authored papers, extramural and internationally funded research projects.

## **The need for the true spirit of International Scientific Collaboration**

Presently, most of the international scientific collaborations in healthcare research are prioritized by policies that serve national interests, financial benefits, development of a specific expertise, and concentrate on diseases of developed countries. Only 10% of the total research funds are spent on 90% of the global health problems. This reflects a gross lack of concern for the health issues of developing countries that bear about 93% of the global preventable disease burden.<sup>2,3,4,5</sup> This alarming situation has motivated the scientific community to recall the basic ethics of the worldwide advancement of science, strengthening research and resetting healthcare research priorities for development in third world countries.<sup>3,4,6,7,8,9</sup>

The ultimate goal of a meaningful scientific collaboration is the benefit to the global human community irrespective of culture, ethnicity or religion. As it has been stated by 1996 Geneva Declaration on Science and Society:

‘Mutual cooperation, reflecting the recognition that the production and utilization of scientific and technological knowledge are decisive for the future welfare of humanity and that science, with its universality, is uniquely positioned to serve as a laboratory in which mankind can work together to achieve a better future in accord with the principles of responsibility, solidarity and respect for the rights of individuals and nations.’<sup>10</sup>

## **Advantages of Collaborative Research**

In this era of instant global communication and technological advancement, collaborative research is deemed as pivotal to success at all levels. Academia, research funding agencies and private foundations are more supportive of the research projects that involve participation of investigators from different backgrounds.<sup>11</sup> Grant applications with multidisciplinary participation and diverse experimental approaches are more likely to be accepted than those from a single technique or a narrowly focused area of research. Universities foster interdisciplinary or integrative research programs at undergraduate, graduate and postgraduate levels in order to emphasize interdisciplinary training of scientists. Scientific publications resulting from international collaborative research projects are cited more frequently.<sup>11</sup> Governments also facilitate collaborative research.<sup>12</sup> Experiences from different areas of disciplines have proven that successful collaboration enhances the entire research process, enhances research skills and abilities to work as a team, results in higher quality science, and generates benefits beyond the specific project.<sup>13,14,15,16</sup> This has been proven by the recent international and cross-cultural collaborative researches in health

sciences leading to better standardization and reliability of assays, protocols, and techniques in basic research.<sup>17,18,19,20</sup> Collaboration in clinically-oriented research has led to discovery of etiologic agents, risk factors, quality control, diagnostic criteria and improved treatment, care and preventive strategies and development of internationally acceptable standards and policies in clinical medicine and research.<sup>21,22,23,24,25,26</sup>

## **Challenges of Collaborative Research**

Collaborative research at different levels is however a challenging endeavor. Collaborative research projects especially those across disciplines or institutions, often demand revision of the traditional departmental structure within academia and seek to modify policies and practices for successful inception and implementation.<sup>27</sup> Different types of collaborations between academia and industry involve transfer of technology and while bringing financial benefit to academia through public or private funding and additional income from issuing licenses for the use of patented inventions, usually restrict publications of research that is often necessary for career advancement of a scientist or ranking of the academic institution.<sup>28,29</sup>

International collaboration has its own additional challenges.<sup>30</sup> Institutions or individuals forging international collaboration have to overcome racial, cultural, ethical and religious barriers and respect diversity and build trust.<sup>7,30,31,32</sup> The regional and global political atmosphere and interests of stakeholders' often influences policies and attitudes.<sup>8,33,34</sup> usually to the disadvantage of developing nations, posing additional challenges.<sup>8,34,35,36,37,38</sup> While entering into collaborative partnerships, scientists must be responsive to the challenging ethical issues about the impact of their research on human society, their duty to alleviate human suffering and avoidance of exploitation of vulnerable.<sup>39,40,41,42</sup>

With the current overall global scenario, successful international collaborations with the will of solely serving humanity, adherence to the principals of integrity and international declarations such as Declaration of Helsinki and Geneva Declaration on Science and Society are perhaps more difficult. Fortunately, the scientific community has overcome many political and self-motivated unethical barriers that have resulted in several collaborative projects and programs across the globe.<sup>10,11,30,43,44,45</sup>

## **Beginning Collaboration – the ground realities**

It is remarkable that though collaborative research is seen as a difficult endeavor, most successful collaborations begin informally at a tea or lunch or a brief meeting at a conference or even with a friendly email.<sup>a</sup> Most often, creating a collaborative relationship is attributed to taking an initiative while communicating, volunteering

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a. This is a personal experience of my own and what I learned from my mentors, friends and colleagues. There is no doubt that informal and face-to-face interaction has its own extraordinary effect. This has an obviously added advantage when scientists of different countries, race and religions meet or contact each other.

ideas or observations, helping a researcher with a required chemical or giving a helpful tip about a vital experiment he or she is engaged in.<sup>46</sup> Such display of friendly or helpful behavior is an attractive force in initiating and maintaining collaborative relationships.<sup>47</sup> The main motives for seeking a collaborative relationship among scientists include gaining specialized skills and equipment, increase in knowledge, pursuing new ideas or methods, better publications, and good quality of science.<sup>15,48</sup> A collaborative relationship is often practically realized when the participating scientists submit a grant proposal together. Each participant has to formally describe his or her role in the project and budget allocation commensurate with his or her experience. Responsible officials from both the collaborating institutions approve the final grant proposal.

### **Formalizing a Successful Collaboration – the basic ingredients**

In order for a collaborative partnership to be successful, all the relevant details should be set out clearly right from the outset, without any assumptions. Working out details after the practical collaboration has begun will not be a smooth process as once the practical collaboration has been established, based on progress and results, the outcomes and interests strongly influence fair judgments of the collaborating parties, often leading to misunderstandings. There should be no hidden agendas and right from the start, expectations, activities and responsibilities must be based on realities and communicated as such.<sup>31</sup>

### **Managing a Successful Research Collaboration**

Successful collaboration demands responsible attitudes from the team leaders as well as the major participants in different stages of the collaborative project and in various situations. Trust is the most important factor that bonds collaborative relationships and motivates the partners to pursue common goals. However, it builds up slowly depending upon attitudes of partners.<sup>49</sup> This is especially true when the collaborating partners belong to different countries or diverse cultures.<sup>31,50</sup> Each collaborator must appreciate unique talent, expertise and the knowledge that the other one possesses and that there is no real “leader” in a collaborative partnership.

The basic spirit of collaboration demands display of individual commitment, altruism, affiliation and empathy and other similar high moral values.<sup>47</sup> The team leaders especially need: to maintain trust, mutual decision-making and flexibility, to diffuse lack of understanding, to acknowledge and accept differences, to maintain researcher neutrality, share progress, respect refusal and respond to feedback, to foster mutual respect and understanding, recognize and minimize pitfalls, accommodate needs, re-negotiate target dates, reassure and dispel doubts and clarify ambiguities, to provide training or support as needed and reinforce expectations at multiple levels, to communicate final research results, foster mutual learning, equip team members to handle change challenges, acknowledge individuals and group involvement at all levels and give due credit.<sup>14,16,50,51</sup>

## **Essential Ingredients of Collaboration**

### **1. Effective Communication**

Effective communication creates transparency in a relationship, and is of pivotal importance for a successful collaboration. Without communication, collaboration often becomes difficult to maintain and a relationship can lose professional warmth, more so when it is cross-cultural.<sup>31,52</sup> It is even necessary to maintain communication after the termination of collaboration. Communication should be established at all levels, sharing expertise, data, chemicals and other necessities.<sup>53</sup> Successful collaborators take the initiative in starting and maintaining communication. One should be proactive and not wait for the other side to begin communication. All means of communication (such as a phone, fax, email, etc) should be used to keep contact with team members and progress should be updated and communicated.<sup>28</sup> Once the collaboration is over, informal communication can still be maintained for exploring future research projects together.

### **2. Setting Baseline Goals and Objectives**

After establishing initial agreement for collaboration, the parties should work out and determine goals and objectives of their collaboration. Each partner must lay down his or her contribution to the main goals of the collaborative project. Without determining goals and objectives from the start, the relationship may lead to false hopes and expectations.<sup>53</sup>

### **3. Sharing and Assigning Responsibilities**

Among the important matters that need to be worked out at the beginning of a collaboration is sharing the work between the collaborating groups. Usually, it is the leaders of the group who decide assigning different tasks to graduate students, post-docs, technicians or other team members within their group and work out initial details regarding coordination between the relevant collaborating group members and the leaders at various stages in future. Matters pertaining to how the group members will exchange information about their work and responsibilities and at what level, use facilities, or when there is need to add a new member to share additional responsibility in case desired results are not achieved within the target period should also be considered. Determining clear roles of each collaborating team member will reduce stress, enhance performance and clarify mutual expectations.<sup>53</sup>

### **4. Setting up Future Milestones of the Project**

After an initial framework of different activities is set and agreed upon by the team leaders, the next step is to estimate a time limit to each of them and make a tentative timetable for different activities until the termination of the project. Since research can be highly uncertain, this should be done with a reasonable degree of flexibility and involvement of all the team members and with their approval. The deadlines should be renegotiated if the milestones are missed.<sup>12</sup>

## **5. Rules and Norms for Sharing and Handling Data**

Setting rules for sharing data, both when and to what extent and level will harbour clear understanding and remove doubts in future. This is especially true for the collaborating partners when the research funds are coming from different agencies, institutions or industry and have a bearing upon the sharing or ownership of data at some stage of collaboration in future. Exchange of information about the funding source instills a sense of responsibility among the team members regarding data handling, disclosure and publication. The team heads must mutually discuss and decide, set practical rules and communicate to their subordinates the policies related to data ownership, keeping, sharing, disclosure and publication while the project is in progress and after it has ended. This will also include custody and transfer of data books, electronic media such disks or CDs or even hard drives if need be. Collaborations without settling ownership issues may lead to misunderstandings, disputes, and legal suits.<sup>12</sup>

## **6. Writing and Publishing Together**

Though the norms of scientific authorship are usually known to the scientific community, team leaders in collaboration must have a mutual understanding about the mechanism as to how they will write and publish together once different team members start doing experiments, generate valid data or perform data-analysis. Moreover, they should also work out an accurate assessment of 'who did what' to signify the proper placement in the authors' byline or acknowledgement in the publication.<sup>b</sup> A slight error in ordering of authors and even missing minor expected acknowledgement may hurt the feelings and kill the future collaboration.<sup>46</sup>

## **7. Disclosing and Settling Financial Interests**

The financial interests are a cause of considerable concerns among investigators involved in research.<sup>54</sup> Its not uncommon that a collaborative research which was initially motivated by enthusiasm for a scientific discovery and publication of 'hot science' leads to financial gain for one or more of the collaborators or the institution or industry that funded the project. Thus it is a wise move on the part of collaborators to settle and disclose their financial interests and stakes at the beginning of collaboration. They must also decide that if any expected or unexpected results lead to financial gain, patent or intellectual property, how the interests will be decided among themselves and those who funded the project.

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b. Scientific ethics is not a part of graduate level curriculum in most of the underdeveloped world. This creates a situation of lack of essential 'know how' of publication ethics among the researchers. What I have seen is that in many instances, mentors or senior researchers tend to be enlisted as first authors instead of the junior researcher who wrote the manuscript. This state of affairs is further complicated while working in collaboration among institutions.

## **8. Informing Each Other and Following Rules and Regulations**

The team members in collaboration must respect and follow rules and regulations as set by the funding agencies or grantee institutions or the nature of their research. They should inform each other about their own limitations or claims with regards to handling of materials, use or transfer of equipment, confidentiality of clinical data, budgeting, intellectual property rights etc.<sup>54</sup> The partners in collaboration have to be responsible not only for their own colleagues but equally so for their collaborators. The team spirit of collaboration demands clear understanding and appreciation of the fact that failure and success is shared equally by all the parties.

## **Resolving conflicts**

When a partner finds convincing evidence of scientific misconduct by another lab, mishandling of data, conflict of interest or breach of terms, it is wiser that team leaders directly discuss the issues in order to resolve them in a collegial atmosphere. This may necessitate repeating some experiments and settling financial matters. Resolving ethical issues or disputes is a more complicated process when collaborating scientists belong to different nations or are physically located in countries far enough apart to limit direct contact.<sup>29</sup> Unresolved ethical issues, conflict of interests or evidence of financial misappropriations lead to lack of trust, abandonment of a project or in the end lawsuits.<sup>c</sup> The scientists must therefore prudently weigh potential disadvantages and difficulties before taking an action.

## **Beyond Collaboration**

Scientists are ambassadors for their countries and cultures. Healthcare research across the nations especially among developing countries can promote harmony and cross-cultural understanding. This can be a fruitful byproduct of an international scientific collaboration when collaborating nations belong to diverse cultures or political coalitions.<sup>d</sup> Going further, scientists can also play an important role in resolving international conflicts and contribute their share to building peace among nations if not governments in the present-day world struggling for it.<sup>7,55</sup>

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- c. Perhaps, if, at the very start of their collaboration, scientists realize that their research is not only for career promotion, financial benefits, competition or winning grants and awards, but for reducing human suffering and making life better, many problems that end up in bitter relationships or lawsuits could be resolved with better understanding of major goals and minor gains.
  - d. I would emphasize here that an international collaboration between scientists of two or more countries based on visible gain for the public benefit of a third world country, for example, research on an infectious disease or aspects of public health problem prevalent in that country, will clear the atmosphere of mistrust and foster attitudes of reliance and amity among the scientists as well as politicians. In this situation, scientists of participating countries are the key players.

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