# Communicating with Investigators about Financial Compensation for Statistical Collaboration

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**ABSTRACT**

Communicating with investigators about financial compensation in the area of statistical collaboration represents an important but often underemphasized component of biomedical research. The more complex the area, the greater the need for sound and effective communication strategies. Ittenbach and DeAngelis (2012) recently compared two compensation-based models for statistical collaboration—a fee-for-service model and a percent effort model—recommending a hybrid of the two for use in academic medical centers. The purpose of the current paper is to extend their work by providing a rationale and framework for communication among scientific teams. The discussion is organized around three pivotal areas: understanding the client's needs and constraints, establishing effective patterns of communication, and demonstrating knowledge in financial as well as analytical matters. Recommendations for improving the collaborative, communication-based processes are offered.

## INTRODUCTION

Within any field of study, effective collaboration requires more than simple technical knowledge—it also requires the ability to communicate well with others. Communication is more than just sharing information with others 'on our own terms'; it requires the ability to send, receive, and adapt information to the needs of the client, at the time the information is needed, and in a manner that facilitates the goals of the study. The more complex the science, the greater the need for honest and open communication among team members. Not surprisingly, discussions about compensation can add yet another layer of complexity by translating the needs of the investigative team into financial realities.

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Ittenbach and DeAngelis (2012) recently compared two compensation-based models for statistical collaboration—a fee-for-service (FFS) model and a percent effort (PE) model—recommending a hybrid of the two when working with investigators in academic medical centers. Although the models presented have their own advantages and disadvantages, they must each be evaluated within the context of existing institutional policies and practices. Escalating costs and diminishing resources can strain even the most productive and efficient departments. Providing technical support to study teams is not simply about the depth and quality of the technical information, but the depth and quality of all the information shared—including information regarding financial compensation.

All collaborative relationships happen within a context—that is, a larger system. As Derr (2000) pointed out, communication is what links the consultant's knowledge with the client's needs—and it is the mechanism through which technical help is provided to the clinical scientist. While the principles raised by Derr are couched within a statistical context, they are directly applicable to all technical specialties, from biostatistics to bioinformatics to sponsored programs and regulatory affairs.

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The purpose of the current paper is to build upon the earlier work of Ittenbach and DeAngelis (2012) with respect to compensation models for statistical collaboration, by providing a rationale and framework for communicating with investigators about financial compensation. Recommendations are then offered for improving this collaborative process.

## Understanding Client's Needs and Constraints

First and foremost, biomedical research is about advancing evidence-based medicine. If designed well, the compensation model should actually facilitate the collaborative process and it should allow for the provision of services not otherwise available. Given that it truly is about the science, the primary objective of every meeting should be to make certain that the goals of the study and the needs of the client are being addressed as completely as possible, given the financial and practical limitations of the environment. To quote a widely recognized author, "Seek first to understand, then to be understood" (Covey, 1989, p. 235). Once the client's needs and the scientific problems on which those needs are based are explained and fully understood, the statistician can devise and communicate a support plan, complete with a detailed budget.

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For example, some teams are quite proficient at designing studies, conducting their own analyses, and writing the results up for peer review, while others are not. The former may only need incidental or infrequent consultation (or mentoring) while the latter may need extensive, sustained analytical support. Consequently, the former may be better served by an hourly fee-for-service approach to invoicing while the latter may be better served by a more sustained, percent-effort model. In addition, some investigators may need the guidance of a Ph.D.-level statistician while others may benefit from the help of a well-trained master's- or bachelor's-level statistician. Whatever the case, investigators and statisticians alike must work within the constraints of the system in which they work. While some statistical support units will have many different levels of expertise available to help researchers, others will not. In addition, many investigators will have budgets and support systems that can flex in response to needs as they arise; others, however, will need to make the

analytical support fit the budgetary constraints. Hence, the clarity of the problem and the unique needs of the investigative team have clear, budgetary implications, which in turn may have implications for the science.

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Whereas investigators justifiably care more about the science than the charge-back mechanisms, statisticians and other support personnel may need to share with the client the advantages and disadvantages of each approach (see Ittenbach & DeAngelis, 2012). It has been our experience that a brief explanation of why a charge-back mechanism is necessary goes a long way toward strengthening the collaborative relationship. For example, many investigators may not actually know that some services like statistical or data management support may not be covered by institutional mechanisms and must be purchased through other means. Not all investigators understand that some statistical support units are required to generate their own funding and be cost-neutral to stay in business, similar in many ways to a clinical department within the hospital itself. Those that cannot stay cost-neutral may cease to exist, resulting in little to no statistical support available for investigators, adversely impacting the science in a fairly direct way. Giving the explanation and rationale for support as early as possible in the collaborative working relationship, preferably during the first meeting, will do much to help alleviate any misunderstandings or hard feels associated with payment for services.

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## Establishing Effective Patterns of Communication

Investigators understand that research is a complicated process with many interconnecting parts. Investigators also understand that delays and disruptions are part of the scientific process. However, those disruptions should not stand in the way of a healthy and productive working relationship. Listed below are three components that help to establish effective patterns of communication.

**Building Trust through Commitment**. Few things are more important to an investigator than keeping one's word. Whether one is discussing specifics of a scientific method or the details of an

invoice, it generally always comes down to trust, and the trustworthiness of one another. If a statistician or other technical service provider can be trusted to hold true to simple things like arriving for meetings on time, returning phone calls/emails in a timely manner, and having the right documentation when needed, chances are very good that the statistician can be trusted with larger issues such as hourly reporting and invoicing. Investigators want to trust that their data and their projects are being cared for wisely and that the time devoted to their projects is productive. Given the rush to meet deadlines, many investigators often forget how much they ask of their support staff. A full and open accounting of effort spent along with relevant products/deliverables (e.g., printouts) may be all that is necessary to allay one's concerns.

**Open Communication**. Just as clients have expectations, so, too, do the statisticians. Whether it is time, equipment, support staff, or just plain data, statistical support is often conditional upon many factors. These factors must be made known at the time decisions are made about moving forward with statistical support. If a statistician does not have the time, the right software, or the skills needed for a particular analysis, then that should be made known right away. The success of an investigator's project often hinges on the statistician's work, so investigators have little reason to withhold information or resources. Investigators may not always have the information or the resources needed, but they absolutely cannot provide them if they do not know that particular and perhaps even very specialized resources are needed by the analytical support team. The more open the communication, the more important it is to identify and set the boundaries needed to assure that jobs get done (Morganstein, 2012).

**Package the Information**. Technical information, like the expectations just mentioned, must also be conveyed in a professional and straightforward manner. The information must be written, organized, and sequenced in a way that fits with the investigator's expectations and level of understanding. When sharing a 30-page printout with a study team, even simple things like outlines, advance organizers, and introductory statements can do wonders for making the information accessible to the team—and in building confidence that the statistician has the teams' best interests at heart. Morganstein (2012) suggested providing study teams with formal "agendas, flowcharts, checklists, and minutes from meetings" to help keep the lines of communication open with all team members. Time spent organizing and updating correspondence helps anticipate questions from the team

and assists with assimilation of complex material throughout all phases of the study.

## Demonstrate Knowledge in Financial as well as Analytical Matters

In a climate that values a quid pro quo philosophy, investigators often do not understand being charged for what they regard as collegial services. Yet, clinical departments are not expected to provide their services without sound cost accounting procedures, so why should it be any different for scientific support units? Having a trusted statistician or business manager articulate the model a department uses for financial compensation can go a long way toward gaining acceptance among colleagues. If investigators are able to recognize the same standards of veracity and rigor in the compensation process as in their statistical work, they are likely to be appreciative and consider their scientific work to be in good hands. While business managers are a key component of any study team, the statistician cannot always defer compensation-related questions to the business manager without loss of credibility. With respect to financial arrangements, specifically, statisticians should be able to understand and convey the following to investigators.

**Options for Financing Statistical Support**. It matters little whether one is a fan of a particular model or not. Whereas in some departments only one funding model may actually be available to faculty and staff (e.g., PE or FFS, exclusively), there are also departments where alternative models are either readily available or entirely permissible. For example, if there is a threshold below which percent-effort is not permissible (e.g., 10%), then departmental staff members should be able to report the policy for what it is. Policies do not have to be etched in stone; however, when policies are based on solid reasoning, communication is enhanced and frustrations minimized. Many institutions have support systems in place to defray costs for one team (e.g., departmental consulting centers, Center for Clinical and Translational Science), while subsidizing the support of another (e.g., biostatistics, bioinformatics). Avenues of support are certainly important for investigators to know about, and to have available to them, but, just as importantly, investigators should also know that the work is not simply 'free,' but rather subsidized by another department or sponsor to improve the scientific work of the institution. Ittenbach and DeAngelis (2012) outlined a series of steps that can be used to establish rate structures for collaboration using tiered levels of support within an academic medical center.

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**Procedures for Reporting, Verifying, and Billing**. Most people assume that they get what they pay for—and want to believe that they are getting a fair exchange for their dollar (Derr, 2000). As such, if investigators see that the hours spent on a project are reasonable, and if there is a value added to the project work by the team statistician, then the investigator will be free to concentrate on the science. Most investigators do not want to take advantage of their statistician's time, so the process can protect both sides of the working relationship. The same principle applies to the cost-accounting software used to track and invoice for effort spent. Investigators will want assurances that invoices and/or electronic draws on their accounts are accurate and verifiable (even auditable where necessary), and that the cost accounting software is as sophisticated and reliable as the software used in their own scientific work.

**Estimates of New Projects**. Few things can inspire confidence in a statistician more than an accurate and well-defined project estimate. Whether a statistician knows how to generate sound project estimates or can refer to someone who can provide those estimates, investigators appreciate it tremendously. Having immediate access to an experienced business manager is critical to the statistical consulting relationship but does not free the statistician from knowing many of the compensation-related fundamentals—especially those that affect the science! Being able to drill down and cost out components of a large project over time offers investigators a sense of comfort and confidence that their needs are being fully addressed. For example, having modifiable Statistical Analysis Plans, Data Management Plans, and other templates available for use to help with the planning and communication process can be very helpful with respect to completely characterizing the work that will be needed to develop sound budget estimates. Not surprisingly, estimates for effort spent and the budgets that contain them should be very much a collaborative effort among the investigator, the statistician, and the business managers, all of whom are indispensable components of the team, working together to improve the science and the medical care that results!

## CONCLUSION

Communicating with investigators about compensation-related policies and practices when discussing statistical collaboration is an important but often underemphasized component of statistical consultation. Within any field of study,

effective collaboration requires more than simple technical knowledge; it also requires the ability to communicate well with others. The more complex the material, the more important the need for sound and effective communication strategies for all concerned. Listed below are several recommendations for statisticians and other technical support staff who routinely find themselves communicating with others about financial compensation.

**Communicating with investigators about compensation-related policies and practices when discussing statistical collaboration is an important but often underemphasized component of statistical consultation.**

- Conversations regarding scope of work and financial compensation should occur prior to the start of any work or prior to submission of an application for sponsored funding.
- Discussions about financial compensation must be couched within the context of a broader communication strategy, one built on trust, open and honest communication among study team members, and well-crafted deliverables tailored to the level and needs of the investigative team.
- The compensation model can facilitate or hinder the success of the science and productivity of an investigative team.

Statisticians and other technical support staff should be cognizant of the financial compensation model(s) used by their department and the options available to investigators. Support staff should be able to articulate the strengths and weaknesses of various charge-back systems and how they will affect a given study.

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