

Interdisciplinary Communication in Pain Medicine: The Case-Study as Integrative Exigency

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The increasing proliferation and isolation of medical subspecialties has come with an interesting, though perhaps not unexpected, side-effect: the demand for interdisciplinary collaboration. Most National Institutes of Health and Center for Disease Control research grants now either require or state an explicit preference for interdisciplinarity. However, as is well known to communications scholars, interdisciplinary dialogue is not always easy. Indeed, in some cases it may be nearly impossible. For some time now rhetoricians of science have been exploring the very possibility of interdisciplinary communication under the rubric of incommensurability studies (Ceccarelli, 2006; Harris, 2005; Prelli, 2005; Herndl and Wilson, 2007). This research has suggested that interdisciplinary communication is generally possible in environments wherein different disciplinary stakeholders share “integrative exigencies” (Herndl and Wilson)—i.e. common commitments to practical goals or ethical values. Certainly funding requirements constitute an integrative exigency, as do the ethical commitments that arise from the Hippocratic Oath. Indeed, these shared material and ethical exigencies make medicine an ideal forum for interdisciplinarity collaboration and communication.

However, the possibility of such interdisciplinary communication is not the same thing as successful interdisciplinary dialogue. This paper presents the results of a pilot study which investigates what genres of continuing medical education (CME) are most effective in fostering interdisciplinarity. In so doing, it investigates the discourse of a multidisciplinary pain

management educational organization—the Midwest Pain Group (MPG).¹ Pain is a ubiquitous part of the human condition. Whether patients are afflicted with rheumatologic disorders, neurological diseases, or traumatic injuries, they can suffer considerable pain. Subsequently, pain management is both an area of inquiry and a sphere of clinical practice that requires interdisciplinary communication. Recognizing this integrative exigency, members from over twenty different disciplines and subspecialties founded the MPG in order to share scientific and treatment insights across the disciplines. However, the MPG's efforts are not always successful. Some CME programs foster greater interdisciplinary engagement than others. In the sections that follow, I present the results of my inquiry into the MPG. Using a combination of ethnographic observations, participant interviews, and discourse analysis, I argue that CME presentations with a significant case-study component are more effective than those that focus on scientific research in fostering interdisciplinary dialogue. After a brief discussion of data collection, I will interrogate the case of the MPG first by exploring the integrative exigencies that foster their interdisciplinary discourse. Then I will investigate the different CME genres and the extent to which each genre succeeded in provoking dialogue.

Methods and Data Collection

In June 2006, I began field observations of the MPG. The primary activity of the MPG is the monthly Journal Club at which members offer CME-style presentations and discuss research from their respective disciplines. During each Journal Club meeting, the MPG rents a room at a local restaurant (often using funds provided by a sponsoring pharmaceuticals company). The MPG members eat while four to five members present the results of efficacy trials and other

¹“Midwest Pain Group” and all subject names are pseudonyms.

research articles from a range of healthcare journals. The presenters² prepare PowerPoint presentations summarizing articles, and often offer additional background information, additional research, or anecdotal evidence associated with the topic of the research they are presenting. Each presentation ends with a question/discussion session when MPG members ask for points of clarification or discuss the issues presented. The evening often begins with the results of an efficacy trial for a drug manufactured by the sponsoring pharmaceuticals company. The resulting discussions often revolve around statistical reliability, underlying physiology, or procedural clarifications. These are the points at which members share information across disciplinary specialties and explore the divisions and conflict between disciplines and their shared desire for change.

Data collection began in June 2006 with the administration of an on-line pre-observation survey. This survey was designed to collect demographic data about organization members, including professional data such as field/ sub-specialty, additional certifications, type of practice, primary patient population, and years of practice. The survey also included open-ended questions designed to elicit initial information on why individual members participate in MPG. Finally, the survey also asked individual members to provide their definition of pain and to describe their approach to pain management. I subsequently observed, audio-recorded, and transcribed approximately 25 journal club meetings between June 2006 and November 2008. Textual artifacts distributed at these meetings (PowerPoint presentations, pharmaceutical advertisements, and research articles) were also collected. Additionally, fifteen 40-90 minute participant interviews have been conducted and transcribed. In these interviews, subjects were

² Unlike many pharmaceuticals-sponsored events, presentations are almost exclusively delivered by unpaid MPG members who focus on results and limitations of research reports. In two years of data-collection, no more than a half-dozen paid pharmaceuticals stump-speeches were observed. In fact, the MPG has semi-routine problems with funding because of their insistence on open, limitations-focused, and off-label discussions.

asked to reflect on their understandings of pain, pain management, the problems/advantages of interdisciplinarity and the discussions that occur at MPG meetings. (A representative list of interview questions is available in Appendix A.) Interview and journal club meeting transcripts were analyzed using a mixed methodological framework which included enunciative analysis, genre analysis, and discourse analysis. Enunciative analysis³ was used to identify the conflicts within the discourse in order to determine the exigencies for interdisciplinary collaboration. Genre analysis was used to classify each CME presentation into one of three standard genres. Finally, discourse analysis was used to assess the number of utterances (conversational turns) provoked by each presentation.

From angst to exigency

While the objectification and subsequent medicalization of pain began as early as the advent of modernity, medical science of the 1970s took the discourse of pain to a previously unreached level of complexity. The 1970s marked the rise of the International Association for the Study of Pain (IASP), the first major professional body with pain as its primary object of knowledge. The founding of this intensely *multidisciplinary* body of healthcare providers and researchers ushered in a new era of pain inquiry and pain management healthcare. Capitalizing on the research of previous eras, the IASP and its affiliates pursued a broad research agenda designed to unify the preexisting notions of pain and pain management. These clinicians and scientists invented instruments like the Numeric Pain Rating Scale (NPRS) to help quantify pain and measure the success of pain management. The now widely used McGill Pain Questionnaire defines a list of acceptable adjectives for describing pain, e.g. tugging, burning, splitting,

³ Foucault (1972) suggested that when we consider discourse we ask the question “How is it that this statement appeared rather than some other?” (p. 27). How do the rules and constitutive regularities of a discursive formation produce one statement about a specific type of object and not some other statement? Enunciative analysis studies the “distribution of gaps, voids, absences, limits, divisions” that govern the dispersion of statements and the specification of objects by discursive formations (p. 119).

nagging, and dreadful (Melzack 1975). They divided pain into identifiable subtypes: somatic, neuropathic, and psychogenic. They developed statistical methods for quantifying the impact of pain on the patient's quality of life, psychological well-being, and economic livelihood.

However, this program of new research and treatment has presented the pain management community with perhaps more questions than answers. In their efforts to establish an approach to pain which bridges the insights from multiple disciplines, pain scientists have run up against several challenges that delve into the core of Western science. These challenges manifest themselves in a variety of forms, but have ultimately contributed to profound metaphysical and epistemological anxieties for pain science. The process of attempting to forge a new science of pain has forced the pain management community to directly confront the problem of the mind/body dichotomy—i.e., they are continually presented with issues that force them to question their preconceived notions concerning the metaphysics of pain, the nature of consciousness, and the fundamentals of the human condition.

The broader discourse of pain management that provides the context for the work of the MPG is shot through with this mind/body conflict. One prominent example of this comes from the IASP's efforts to develop a hybrid definition of pain—one that seeks to combine the insights of both the physiological and psychological definitions. The IASP employs a Taskforce on Taxonomy that is charged with creating an interdisciplinary definition of pain and pain related medical language. Underscoring the varied approaches and understandings of pain, the IASP provides definitions of over twenty pain related terms including pain types (e.g. neurogenic pain, allodynia, and peripheral neuropathic pain), pain "syndromes" (e.g. dysesthesia, hyperalgesia, and neuralgia), and pain-related terminology (nociceptor, noxious stimulus, and pain tolerance level). The entry for "pain," however, is one of the longest definitions available and includes

multiple explanatory notes that serve to emphasize the problematic nature of defining and assessing pain. Nevertheless, this definition is one of the first codified attempts to establish a hybrid definition that links mind and body.

In this effort at a dichotomy-crossing definition, the IASP succeeds in unifying the physical and the psychology, but that success is fraught with dissonance. The definition is undeniably hybrid, but certainly not synthetic. Indeed, the second paragraph almost directly contradicts the first. Though pain is defined as “subjective and emotional,” and the definition takes great care to divorce the medical understanding of pain from a physical mechanism of injury, the link to physical stimulus is ever-present. The definition directly relates the subjective-emotional experience to “actual or potential tissue damage,” “descrip[tion] in terms of such damage,” and “injury in early life.” Pain is explicitly described as physical in the statement, “It is *unquestionably* a sensation in part or parts of the body.” Yet at the same time the definition works against this physically-grounded conception of pain, stating that pain is “emotional,” “always subjective,” “learn[ed],” not identical with “nociception,” and “*always* psychological.”

Additionally, this anxiety is exacerbated by the disciplinary specialization in the medical sciences. Various sub-specialties tend to have metaphysical predispositions when it comes to the nature of pain. Physiologically-oriented disciplines such as neurology, anesthesiology or physical therapy tend to focus on the physical dimensions of pain, whereas psychologically-oriented disciplines such as psychology and psychiatry focus on the mental dimensions. This is the case even when they also accept the IASP definition. For example, contemporary research journals devoted to the study of pain begin with the IASP’s description of pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage.” However, after doing their due diligence in referencing the definition provided by the most recognized

international pain studies organization, authors tend to default to a more limited disciplinary conception such as, “physiological pain is initiated with the generation of action potentials of specialized sensory nociceptor fibers innervating peripheral tissues. The action potentials transmitting somatic pain are conducted to the CNS by forming a three-neuron chain transferring nociception to the cerebral cortex” (Riedel and Neeck 2001 p. 405) or, alternatively, as simply “[a subjective] conscious experience” (Jackson, Rainville, Decetey 2006 p. 5). As these descriptions suggest, medical science describes pain in multiple, sometimes conflicting, and seemingly incommensurate ways, thereby exacerbating the metaphysical angst. As the specialized object of different disciplinary discourses, pain becomes two, or more, very different phenomena knowable through different conceptual apparatuses, technologies, and vocabularies.

This definitional angst concerning the nature of pain has fostered a desire for interdisciplinary communication. It has helped to create an integrative exigency, and as this section’s heading suggests integrative exigencies are key avenues to overcoming incommensurability. However, before I explore how these integrative exigencies do this, I want to take a moment to highlight the fact that the problem of incommensurability is not one that escapes the MPG. Though the MPG members are not, I assume, very familiar with communications or incommensurability studies, their daily practice in and between seemingly incommensurate communities keeps such issues present to mind. For example, during a presentation on fibromyalgia—a chronic disorder characterized by widespread bodily pain—the speaker—a neurologist who specializes in pain disorders spoke at length on the problems that can arise from disciplinary acculturation:

I want to talk to you briefly about this whole business of defining things. People will say to you, “If it walks like a duck and talks like a duck, it must be a duck.” You’ve heard that expression right? But some other people say, “If the duck has a beak and a tail, and the beak is on the tail, someone may be talking out of their arse.” I’m obviously not talking about ducks; I’m talking

about fibromyalgia. This is how we come to know things. We'll recognize it when we see it, because we were always told how to look at it. So perception is preceded by the blending of our acculturation and our experience, so that it is slightly colored. That is a concern that we have to be careful of as we go through this. The culture of medicine can go blindly forward for generations, so I think it's very legitimate. We all know the stories about the ghoulish surgical aprons that were worn from one surgery to the next infecting every patient as it went. (Heisenberg MPG Presentation February 2008)

Physiologist Dr. Fitzpatrick echoed this same concern in a follow-up interview, “[H]uman beings, by and large, will not let facts stand in the way of behavior. There are lots of preconceived notions that exist that drive behaviors. And even the presence of fact doesn't seem to make a whole lot of difference” (Fitzpatrick Interview). From these two excerpts, the multifaceted problem facing MPG members begins to become more clear. These excerpts indicate a keen awareness of the notion that disciplinary acculturation can inhibit change, present problems for theoretical definitions, and adversely affect medical practice. The stakes of these difficulties are perhaps even higher in interdisciplinary environments such as the MPG. Multiple conflicting disciplinary perspectives provide multiple challenges to both theory building and medical practice.

Nevertheless, as noted, interdisciplinary collaboration is routine in contemporary science and medicine. This recognition of the fundamentally interdisciplinary nature of contemporary medical research and practice presents serious questions for the doctrines of impenetrable incommensurability which arose from the work of Kuhn and Feyerabend. Rejecting the notion of “brick-wall incommensurability”, rhetoricians like Lessl (2005) and Harris (2005) have sought to make the understanding of “incommensurability” more practical and applicable, in the former case substituting the more palatable “seemingly incommensurate,” and in the latter case offering rhetorical studies of technoscience a detailed and nuanced “incommensurability suite” with many subtle levels of incommensurability. Harris introduced the concept of “pragmatic” or “value incommensurability” a term that describes a situation wherein

values can be so entrenched and entangled with terminological meanings, with practices, even with institutions and perceptual possibilities, certainly with premises and argumentative structures, that they can...block solution paths which violate those values, and the acceptance of arguments from others who have rejected or downgraded or never held those values.... (p. 60)

However, just as pragmatic incommensurability can present an insurmountable obstacle to interdisciplinary discourse, its antithesis, “pragmatic commensurability” can foster an environment of sharing and acceptance. As Harris explains, an environment of pragmatic commensurability can “provide rapid passage to solutions and equally rapid acceptance of another’s solution, fostering tight cooperative engagement...” (p. 60).

These situations of pragmatic commensurability can create an exigency for overcoming theoretical, paradigmatic, and/or epistemological incommensurabilities and can foster a value-driven commitment to solving a practical problem with solutions from a variety of perspectives. In *Image and Logic*, Galison argued that interdisciplinary physics occurs in trading zones between instrument, theory, and experiment (p. 799). He posits that in these trading zones, there is a constant exchange of ideas and concepts between the development of scientific instruments, the development of scientific theories, and the conducting of scientific experiments. In Wilson and Herndl’s (2007) exploration of Star and Griesemer’s boundary objects as rhetorical exigence, they describe boundaries as both “lines of demarcation and differentiation [and as] shared social, organization, and discursive spaces” (132). While boundaries themselves can separate communities and limit exchange, boundary objects like pain capitalize on the shared nature of boundaries to provide the possibility of Galison’s trading zone. As Wilson and Herndl described it, they can foster an “integrative exigency.”

The exigencies MPG members have for seeking interdisciplinarity are varied and complicated. However, some consistent threads have emerged within the data. Obviously, as suggested, there is a significant angst over the definition of pain, but this does not represent the

full extent of the problems. The recognition (on the part of MPG members) that pain is a concept that transcends dualism comes with a concomitant recognition of the incompleteness of monodisciplinary approaches to the science and medicine of pain. The members of MPG are keenly aware of the effect of their disciplinary inculcation on their ability to understand and treat pain, and it is this awareness that has led MPG members to seek an organization founded on interdisciplinary equality and multimodal treatment.

The members of the MPG consistently reject the hegemony of any single discipline (including their own) and embrace a multidisciplinary perspective. If this seems like a major perspective shift for individuals who have been through four to eight years of formal healthcare education and up to ten additional years of apprenticeships, residencies, fellowships, and board certifications, it most certainly is. In fact, members of the MPG sometimes refer to these recognitions about the limitedness of their home disciplines and methods and the value of others as a “conversion experience” or “epiphany”. Gerontologist Dr Olsen, described his conversion to a hybrid configuration of pain in precisely such a way:

I suffer from degenerative-disk disease and spinosus. It forced me to exercise a lot and do something that's beyond pills and surgery. I've met a lot of swimmers who are physicians and I ask them what are you doing here. And they say, “I've exhausted all the other avenues for pain control, so now I swim, and I go see a chiropractor for my back.” They've had a conversion experience based on their own personal health history. And I think that is one way to get into the different integrative areas complementing one another, but working together and seeing patient improvement is another way. There's a lot of stuff you wonder about the merit of it, but there's a trend, you see an improvement in the quality of life. (Olsen Interview)

Similarly, physician's assistant Hamlyn highlighted how potential success with improving patient help contributes to a greater awareness and acceptance of extra-disciplinary treatment options for members of the MPG:

I think that the enthusiasm that the members of the MPG have for the treatment of patients with pain is very inspiring for those of us that do this day to day. Because it is a difficult and challenging role to try to help these patients that have a variety of factors that are contributing to their pain beyond just the physical malady. I think with enough people and diverse fields

approach patients with pain, we're much more apt to be successful. If we look at it in terms of a team approach with the goal of lessening an individual's pain, and seeing it as a team rather than opposition among the different modalities and disciplines as they treat an individual in pain, it will in the future be more successful overall. (Hamlyn interview)

Though Hamlyn is prognostic where as Olsen is reflective, they both articulate the goal of improved health with multidisciplinary clinical practice. Indeed, Olsen and Hamlyn were not the only interviewees who, when asked why they joined the MPG, responded with a variant of "because I was interested [in] improving the management of pain" (Boysen interview). This shared goal—no doubt an extension of the Hippocratic Oath—provides an incredibly powerful integrative exigency for the MPG. A shared commitment to a shared goal is the essence of pragmatic commensurability, and healthcare's intense cultural investment in patient wellness is a prime exemplar. Indeed, the transformation of this pragmatic commitment into an integrative exigency is even evident in the original version of the Hippocratic Oath, "I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners, specialists in this art."

Research into sites of interdisciplinary communication has yielded multiple theories about the social and structural exigencies such as boundary objects, trading zones that—for lack of a better term—operationalize interdisciplinary discourse. These socio-structural constructs are, essentially, prerequisites for interdisciplinary communication, and as such they are useful analytic concepts for explaining why/how interdisciplinary communication is possible in certain situations. But these concepts, by themselves, do not explain the rhetorical processes through which this interdisciplinary communication occurs. Indeed, the remainder of this paper is devoted to exploring the discursive mechanisms that foster such collaboration.

Discursive practices in the MPG's trading zone

The MPG became active in 2004 and was, in its infancy, a very informal organization. For years the founder—Dr. Peters, a Doctor of Osteopathy (DO) with five board certifications (two in pain medicine, one in headaches, one in internal medicine, and one in hospice care), had been working through the difficulties of pain medicine alone in his private practice. Through a combination of his education in pain science/medicine and his experience as a clinician, he began to recognize more and more the need for a multidisciplinary approach to pain (Peters Interview). Following this recognition, Peters invited a few of his close colleagues in his referral network—another pain physician, a couple of psychologists, and pharmacist—to start meeting on a semi-regular basis to talk about the latest innovations in pain medicine. The unnamed pain reading group was formed.

In this early stage of the MPG, Peters and the other members would share recent journal articles on new theories about and/or approaches to pain management. The primary goal was self-education. They would read the articles, meet, and discuss the possible uses and/or limitations of each study. This focus on education and scholarly research which can be traced back to the founding of the group continues until today. Indeed, the current incarnation of the MPG mission statement reflects these goals:

The [Midwest Pain Group] is devoted to education and research in pain management. We are a multidisciplinary nonprofit professional organization and feel it is critical to maintain a variety of represented health care professionals within our group. We are not a restricted organization and are open to any health care professional interested in pain and its management.

Primarily the MPG is still a journal club; however, its expanding membership has required changes in venue and format. Now, it is not atypical for 70-80 practitioners from over 20 different disciplines and subspecialties (including: acupuncture, anesthesiology, alternative medicine, chiropractic medicine, family medicine, gerontology, internal medicine, law, nursing,

orthopedics, osteopathy, pain medicine, pharmacology, pharmacy, physiatry, physical therapy, physiology, psychiatry, psychology, and surgery) to meet at the now regularized meetings which occur the third Wednesday of each month. Though the MPG is often sponsored (at least in part) by pharmaceuticals corporations, those companies seldom provide speakers.

In fact, the vast majority of the presentations are offered by members of the MPG and those presentations are frequently critical of the research supporting the sponsoring pharmaceuticals organization. Using a combination of money provided through membership dues, educational grants, and pharmaceuticals funding, MPG meetings provide members with meals, drinks, and photocopies of relevant articles and PowerPoint presentations. Typically, drug or medical technology companies will chose to sponsor a particular MPG meeting. While this sponsorship determines the theme of the evening, it typically does not determine the nature of the discussion—i.e. the majority of MPG meetings are usually balanced in their support and criticism of the sponsoring organization’s product. Meeting themes typically revolve around either an ailment or an intervention. For example, I attended meetings on illnesses such as osteoarthritis of the knee, migraines, fibromyalgia, post-herpetic neuralgia, and failed back surgery syndrome. Additionally, I observed programs devoted to interventions such as acupuncture, spinal cord stimulation, pregabalin therapy, physio-therapy, cognitive-behavioral therapy, and sim-disk injections.

Since the open-ended discussion model which served the group in its infancy would be logistically impossible given the MPG’s current size, the organization has developed its own suite of presentation genres—adapted from common genres of CME. These presentations now serve as the foundation of all discussion. I have labeled these dominant presentation genres—which developed organically and informally—article summary, article synthesis, basic science

presentation, and practice reflection. In a 12-month sub-set of observed meetings 41 different presentations were delivered at the MPG. Figure 1 below details what percent of the presentations delivered were of each genre.

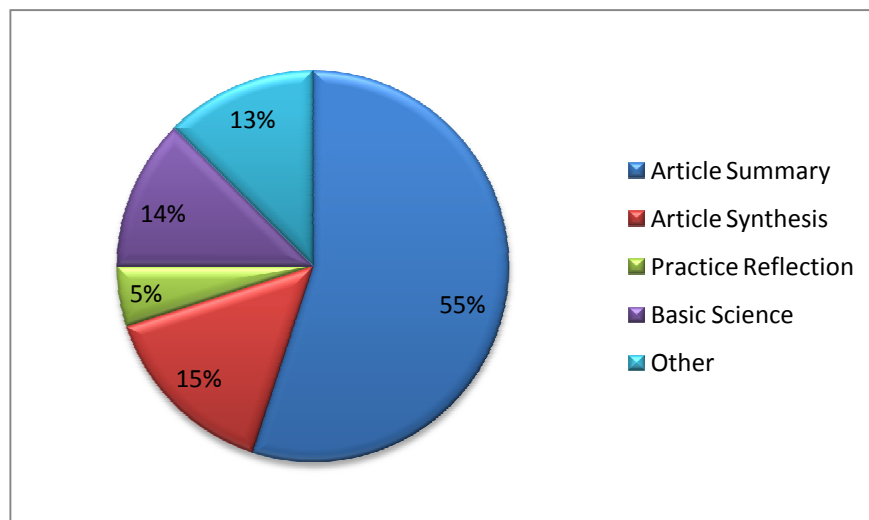


Figure 1: Percent by Genre of MPG Presentations During a 12-Month Sample. This figure details what percent of presentations during the sample period were classified as each genre. Article summaries were a clear majority at 55%.

As the chart indicates, the majority of presentations during this period were article summaries with the remainder being somewhat equally divided among article synthesis, basic science, and other. Practice reflections were the least represented genre.

Each of these presentation genres comes with its own format and conventions, and each has its own affordances as far as the type, quality, and duration of conversation it evokes. The article summaries—much as the name suggests—are straightforward recapitulations of a selected clinical study. Typically these studies are clinical efficacy trials and come from a wide range of journals including but not limited to, *Neuroscience*, *Journal of Pain Symptom Management*, *Pain*, *Archives of Physical Medicine/Rehabilitation*, *Headache*, *Cephalgia*, *The Clinical Journal of Pain*, *Pain Medicine*, and the *Journal of Opioid Management*. The accompanying presentation and PowerPoint slides are typically arranged identically to the research article with traditional

generic slots for introduction, background, subject selection, study methods, results, discussion, limitations, and conclusions. Typically, the presenter will highlight additional study limitations not raised by the author(s). Most MPG meetings begin with a prominent efficacy trial for a pain management drug or procedure promoted by the evening's sponsor—typically a drug company. This material exigency is no doubt one of the primary reasons for the dominance of this genre.

Article syntheses are much like truncated oral versions of review articles. A member of the MPG will select approximately three to six recent articles on a topic, and, of course, this topic would be selected based on the theme of the meeting. The selected articles would sometimes all be from a single discipline such as orthopedic surgery in the case of one presentation on chronic low back pain, and, in other cases, would be intensely multidisciplinary. One article synthesis on fibromyalgia included articles from pain medicine, physiology, psychology, and physical therapy. As the genre label suggests, these presentations were typically synthetic in nature and would attempt to provide listeners with a brief synopsis of the state of current knowledge regarding the subject at hand.

Basic science presentations are probably the only genre explicitly recognized by members of the MPG. These presentations—typically delivered by a physiologist or a neuroscientist—aim to inform members about nature and cause(s) of a given ailment. These presentations due to their nature are generally very biomechanistic. Adopting the standard nomenclature of Western biomedicine, these presentations typically explain the “etiology” and “pathogenesis” of a the chosen disorder. Etiology and pathogenesis are the subfields of medical science devoted to identifying the specific cause(s) and clinical progression of diseases.

Finally, practice reflections articulate recent research with the clinical practice of the presenter. Practice reflections are a variable genre and can take several different forms. The most

common and broadly known form of practice reflection is the case-study. These presentations explore the successes and failures involved in treating a particular patient. Case-studies explicitly recognize that the subject selection criteria of clinical trials is designed to eliminate variables and thus elides the complexity of many patients. Pain patients, in particular, typically have complicated case histories and a variety of comorbid conditions that complicate treatment. Exploring the nuances of one specific patient allows MPG members to reflect on the articulations between the ideals of academic research and the reality of clinical practice. The other common variant of the practice reflection is a hybrid genre which unifies conventions from both the article-based presentations and the case-study. This variant usually follows the format of an article summary or synthesis but pauses frequently along the way for the presenter to reflect on a patient her or she once had that is relevant to the issue at hand.⁴

Every presentation, regardless of genre, is designed to initiate conversation among the membership. (Of course, success in generating discussion often varies according to presentation content, presenter style, and presentation genre.) The discussions following article summaries and syntheses often revolve around study limitations—both in design and statistical reliability. Questions following basic science presentations are often solely clarifying in nature. However, the discussions following practice reflections are often quite engaged with explanation of the supporting or dissenting case and debate over clinical applicability. The discussions following each genre are the points at which members share information across disciplinary specialties and, thus, at which the group confronts the differences between disciplinary languages and research

⁴ Though this genre could easily be identified as a variant of an article presentation or as an altogether different genre, I include it under the rubric of practice reflection because of the response it generates. The social conventions to responding to each genre of presentation are different in terms of the type of conversation and nature of discussion. Discussion conventions following both types of practice reflections are the same and yet different from the other genres.

traditions. In these post-presentation discussions members frequently talk “off-label,” discussing treatments, theories, and practice that violate the tight regulations imposed by disciplines, regulatory agencies and insurance company policies.

Talking “off-label” is the metaphor coined by one of the group members as he deferred certain questions to the “unofficial” discussion that would follow his presentation of data from clinical trials. Talking off-label became a metaphor for the larger efforts of the MPG to overcome the reductive vocabularies and narrow treatments of pain that follow from narrow disciplinarity and regulatory restrictions. The label on a prescription drug, especially the *Schedule II* opiates that are often prescribed for severe pain, is a highly specific product of scientific trails, legal disclaimers and responsibilities, and regulatory approval processes. The drug label compresses an enormous amount of scientific, legal, and regulatory discourse into a localized and binding statement. The drug label is the epitome of the regulatory rules of discourse in Foucault’s theory. MPG members must talk off-label in a variety of ways to accomplish their goals and to navigate restrictions on the dialogue between research and clinical practice. They must discuss pain as understood outside their discipline. They must discuss treatment interventions not common to their fields. They explore research from different methodological paradigms. And they explore unsanctioned indications of approved treatments. All of this off-label discussion is the space in which MPG members step outside their disciplinary restrictions and those of the medical-industrial complex and attempt to foster a better understanding of pain science, thereby improving the practices of pain management.

Fostering successful dialogue

These findings about the importance of informal off-label dialogue replicate many of the theoretical suggestions offered by incommensurability theorists. In his exploration of the

methodologists, instrument makers, and theorists of particle physics, Galison adopted the anthropological notion of the trading zone as his explanatory heuristic. His research demonstrated that even when there are profound epistemological differences among competing disciplines, they can, and do, work productively together in sites of local coordination. When collaborating on a shared goal, they develop pidgin languages that help them in their efforts. As Galison explains, “I invoke this anthropological scene for the specific purpose of illustrating how sharply different global meanings can nonetheless come to (even very complex) coordination in specific contexts” (p. 804). It is the locality and specificity of the contexts that are so instrumental in this case of multidisciplinary success. When the varied disciplines interact on an abstract or theoretical level, their discussion is replete with conflict and controversy, but in the specific contexts of a local task, they collaborate and coordinate.

Similarly, Bazerman and De los Santos have investigated the coordination of disparate methodologies from toxicology and ecotoxicology. This coordination amounts to a specific and local extension of the pragmatic commensurability. As was explained above the existence of pragmatic commensurabilities form integrative exigencies, and multidisciplinary workgroups can capitalize on those exigencies by working at a local scale. The toxicologists and ecotoxicologists of Bazerman and De los Santos study did not have well-aligned disciplinary goals, but they did have a shared set of specific practical goals that had to do with policy and legislation:

Unlike Kuhn’s vision of science, where practitioners seem free to follow the theoretical and practical commitments of their paradigms, fields like toxicology and ecotoxicology must be responsive to the complexity of applied problems, and changing economic, political and regulatory climates. They do not have the insulation from practical concerns that would allow the luxury of incommensurability with the accompanying methodological intolerance and ontological blindness. The pressures are great to attend to all data and phenomena that might be construed as relevant by the social, economic, and political sponsors.... Here application broadens the vision and mitigates methodological obstinacy of a field to allow a fuller understanding of the issues, acceptance of a greater range of data and phenomena, and tolerance of more methodological tools. (Bazerman and De los Santos p. 459)

Here Bazerman and De los Santos explain how the integrative exigencies brought about by their subject's application of abstract theory to practical goals. The structural and material constraints of specific application did not allow the subjects to rest on the laurels of their disciplinary preconceptions and forced them not only to appreciate, but also to use the methodological resources of the other discipline.

Finally, I turn once again to Wilson and Herndl investigation of missile engineers and LANL. Much like the above two cases, Wilson and Herndl's multidisciplinary group worked in an specific local environment where the members had a coordinated goal—in this case missile defense. Once again the locality and specificity of the project were key to successful collaboration. However, the collaborative process was further aided by the rhetorical intervention. Wilson and the other members of LANL's Systems Ethnography and Qualitative Modeling group were able to use their expertise as social scientists to map the various knowledges at work in the missile project. As Wilson and Herndl explained,

The knowledge maps we created and shared with project participants encouraged cooperation and mutual understanding rather than the slash-and-burn rhetoric of demarcation events. When technical experts discuss the parts and subfunctions they have made, they get to describe their local practice, explain their knowledge, open up their community-specific lexicon within the ecological relations of the boundary object. As they trace the lines connecting the boxes on the knowledge map, participants articulate communities of practice, each distinct but also connected through the boundary object. (p. 144).

Once again having a specific, local, and shared object helped to foster integration and collaboration, though not homogenization. In each of these cases, we can see how increasing locality when combined with pragmatic goals and shared (boundary) objects can help produce multidisciplinary exchange and progress. Knowing this tradition of research, I wanted to see how it would apply to the MPG and what suggestions I could offer to help the members improve their collaboration.

My instinct after having investigated the MPG for over two years suggested that they were experiencing only partial success. So, I returned to my field notes and transcripts in an effort to determine which areas of the MPG discourse seemed most successful. I hope to that in identifying these areas. I would be able to capitalize on their strengths and improve upon them using my knowledge of the history of incommensurability studies. One of the first places I looked was to my participant interview transcripts. I saw interview discussion indicated positive valence and feelings of success with regard to certain aspects of the MPG discourse. Members of the MPG reported over and over again how much more productive their work seemed to be when the presentations offered promoted engaged cross-disciplinary debate and conversation—i.e. off-label discourse. For example, Dr. Boysen extolled the virtues of off-label discourse in the wake of presentations over methodologically weak articles:

I think what was useful was not...some of the—I have to put this in quotes—“scientific” papers were less than well done. It was useful to discuss them, but I think some of the discussions about the approach to certain difficult pain problems was useful. There isn’t necessarily a standard way that you can get results. I think getting feedback from a variety of different providers there was quite useful. (Bahls interview)

Similarly Dr. Bennetti reported that the off-label discussion with its engagement from multiple disciplinary perspective is one of the most effective means at working towards a nonmodern—or in his jargon “mosaic”—understanding of pain, “When you sit in a group like that and start to put all the pieces of the mosaic together, you start to see the whole picture. The impact on the psychology, the basic science, the attorneys that deal with patients caught in a vortex of [legal and disability issues.]” (Bennetti interview). This excerpt is, of course, highly suggestive when compared with the results of Bazerman and De los Santos’ study of toxicologists and ecotoxicologists. It hints at a replication of their results in that medical practitioners must also confront a complicated legal/regulator milieu, and that confrontation may foster integration and collaboration. From these interviews, I will offer one more relevant excerpt

from my conversation with pharmacist Dr Benedict. Throughout the entire interview, he was highly laudatory of the entire MPG process. He reported that the MPG was much more helpful and successful than other organizations of which he was a member. When I asked him why, he immediately indicated the off-label format:

I think the format—the Q &A. The openness lends to that. And it's practitioners. The diversity of the group we have—of all the healthcare professionals—that lends to the success of it. Example, our last meeting the pragmatic trials vs stage III trials/ phase III trials. Pragmatic ones are really applied to practice settings rather than textbook science settings. We have practitioners in the audience, academicians, nurses, pharmacists, physical therapists, all have questions and everybody gets to ask how it effects or what it means for me and my practice area. Everybody hears that and learns from it. That's probably the most beneficial or successful. (Benedict Interview)

Here, Dr Benedict links two important issues for cross-disciplinary collaboration: the off-label discussion and a pragmatic orientation. Again the shared commitment to improving patient care made presentations that highlighted pragmatic issues more interesting and engaging, and subsequently in Dr Benedict's estimation, more successful.

So out of these interview excerpt a hypothesis emerged—*viz.*, that presentations that were more pragmatic would foster more off-label dialogue and would subsequently be more efficacious. When it comes to efficacy, the only real index I have of that is my own sense as a rhetorician and the report of the MPG members, and certainly both of these support the idea that pragmatic discussions are more effective for the MPG. But the question still remained as to whether or not pragmatic discussions helped to encourage more off-label discussions. To help answer this question, I returned to my quantified one-year subset of MPG discussions. In reviewing the transcripts and recordings I used to measure to assess the robustness of the off-label discourse: turn-taking (T-values) and length of discussion. After analyzing the T-values and discussion length for every presentation, I classified the presentations by the above outlined genres (article summary, article synthesis, basic science, and practice reflection). As can be seen

from the results below the practice reflections were both more effective in higher T-values and longer discussion time:

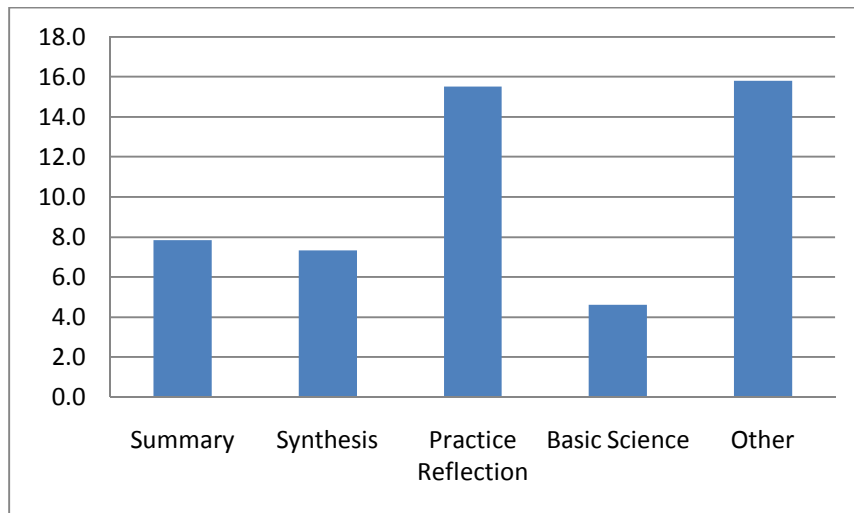


Figure 2: Mean Utterances by Genre. This figure details the average number of discussion terms by genre. Presentations classified as practice reflection and other generated the most discussion terms on average at 15.5 and 15.8 respectively.

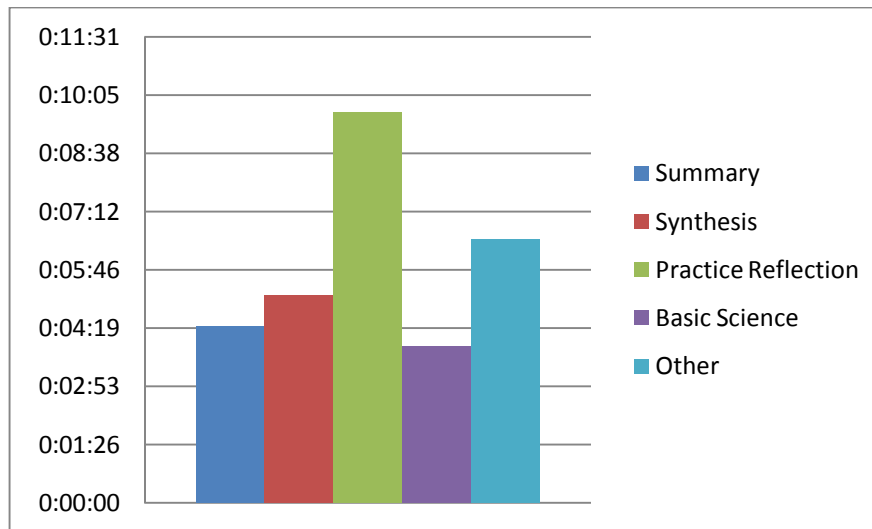


Figure 3: Mean Discussion Time by Genre. This chart compares the average discussion length in minutes and seconds by presentation genre. This data reinforces the t-value figures above in that practice reflections and “other” genres encouraged the lengthiest debate on average. (9:39 and 6:31 respectively.)

These results suggest that the lessons learned from this history of incommensurability studies would apply well to the MPG. More specifically, when the presentations are geared

toward practical goals (such as patient care) and when the context is specific and local (particular patients) more off-label dialogue ensues. By each measure of conversational robustness, practically-oriented presentations return better results than any of the other codified genres. Those presentations in the “other” category are the only ones that generate similarly vigorous discourse. And that too serves to validate the suggestions made by this history of incommensurability studies. Though the “other” category includes a number of different presentation formats, legal and regulatory issues comprise most of the content of those presentations.

Conclusion

In fall of 2008, I reported these results to the MPG, and recommended that they increase the number of practice-oriented presentations relative to the other genres. Since offering these recommendations the MPG has shifted to a program format that includes a greater emphasis on practice reflection. However, the extent to which my presentation informed that move is debatable. The transformation to a greater emphasis on case-study type presentation also coincided with a change in MPG leadership and the shift in regulations concerning pharmaceuticals funding. Unfortunately, I doubt a simple acceptance of my suggestions and subsequent embrace of practical reflection genres would solve the challenges facing the MPG. Nevertheless, the MPG is still actively working towards the establishment of a nonmodern pain configuration. As that process progresses, off-label discourse is a key aspect.

For health communication more generally, these data suggest that when CMEs are presented to a multidisciplinary audience and/or when interdisciplinary collaboration is the desired outcome, that presentations should focus more on case-studies than codified scientific data. The locality and accessibility of the case-study can allow presenters to capitalize on preexisting integrative exigencies and thus foster longer, more engaged dialogue. Health

communications research might benefit from continued efforts in this area. While this data has been suggestive for the work of the MPG, as a pilot study it is limited both by its narrow focus on one organization and its relatively low sample size. Future research in interdisciplinary continuing medical education may want to test the applicability of these findings on other interdisciplinary groups and larger sample sizes.

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Appendix A: Representative Interview Questions

1. Describe your educational background and certifications.
2. Describe your current practice and position?
3. What types of pain-patients do you see most frequently?
4. What are the most common types of pain treatments you employ?
5. What pain measurements protocols do you use in assessing patient pain?
6. What types of quality of life measurements do you use in assessing patient pain?
7. Why did you join <relevant organizational entity>?
8. How do you define pain?
9. How does that definition compare to your profession?
10. How has your thinking about pain changed overtime?
11. What types of presentations/ articles/ texts do you find most helpful/ interesting/ persuasive?
12. What types of presentations/ articles/ texts do you find least helpful/ interesting/ persuasive?
13. How has your participation in the interdisciplinary community affected your practice?
14. How has your participation in the interdisciplinary community changed the way you think about pain and/or pain management?
15. What do you think are the primary barriers to research dissemination and implementation?
16. Anything else you'd like to share?