Existential IR: What Does It Mean to Be An Interventional Radiologist?

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ABBREVIATIONS

ABMS = American Board of Medical Specialties, ACGME = Accreditation Council for Graduate Medical Education, C-GT = constructivist grounded theory, PD = program director, RRC = Radiology Review Committee

Readers of the *Journal of Vascular and Interventional Radiology* (*JVIR*) can identify with this question—if not the answer. Everyone has been on a plane or at a cocktail party or family dinner and been asked, "What do you do? What is interventional radiology (IR) anyway?"

In a thought-provoking study, Keller et al (1) asked the same question—but, this time, they asked the question of themselves and their trainees. The answers they found are intriguing.

An interventional radiologist is:

- An innovator—someone who thinks differently;
- A periproceduralist; and
- Someone who needs to know a lot about a lot of different things.

WHY IS THIS QUESTION IMPORTANT NOW?

IR is on the verge of an identity change ushered in by the American Board of Medical Specialties (ABMS) and the Accreditation Council for Graduate Medical Education (ACGME). ABMS and ACGME are the two organizations in medicine that determine what a physician is and how they should be trained. ABMS has determined that IR is a unique specialty in medicine. The key features of the specialty are expertise in imaging, image-guided interventions, and focused clinical care. ACGME has approved a new residency program to train interventional radiologists. The first wave of students will begin training in 2018.

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WHY IS THIS QUESTION IMPORTANT AT ALL?

It is convenient to be able to explain to your friends and family what it is that you do. It is also gratifying to have a coherent view of your own job and daily activities. However, from the perspective of ABMS, ACGME, and organized medicine writ large, defining what a specialist is and what that specialist does is a necessary part of running an organized, efficient, safe, and successful health care system. Patients need to know what type of a doctor is able to treat their medical condition. Referring physicians need to know what services they can expect from a specialist.

Moreover, it makes sense that the answer to this question—"What is an interventional radiologist?"—be the same throughout the country and across practice models.

WHAT DID THE AUTHORS FIND AND HOW DID THEY FIND IT?

The authors sought to characterize values and perspectives related to the question, "Who are we?" Data collection and analysis with this goal in mind cannot be elucidated with conventional medical research techniques. The best approach for summarizing or making sense of the thoughts and feelings of a group is one used in the social sciences called "constructivist grounded theory" (C-GT).

Readers of *JVIR* can be forgiven if they are unfamiliar with C-GT. Most scientific articles published in *JVIR* conform to hypothesis-driven scientific methods. An investigator starts out with an hypothesis and seeks to prove (or disprove) this hypothesis by collecting and analyzing data according to established statistical techniques. With C-GT, however, the investigator does not begin with a hypothesis. Rather, the investigator collects data—often subjective in nature (opinions, feelings)—and then evaluates this information and constructs a theory about what people think or how they feel (2).

Knowing little about C-GT myself, I cannot critique the specific methods used in this study, but the overall findings do ring true to my personal experience. The themes and values listed in table 4 (1) are echoed every year at the

Society of Interventional Radiology (SIR) Annual Meeting. Many of these values are espoused by IR attending physicians and fellows at my own institution. Tellingly, many of these same themes appeared in the personal statements of medical students applying to the new IR residency this year. This is what medical students think IR is, and this is what they want to become. This is the narrative we tell ourselves. But is it true?

TURNING ASPIRATIONS INTO REALITY: THE NEW IR RESIDENCY

Three important themes emerged from this study (1). Listed in terms of prevalence among entering IR fellows, they are:

1. We need to be more clinical, but we are not sure exactly what that means (94%);
2. We need to know or do it all (75%), and we value experience and exposure (69%); and
3. We value innovation—interventional radiologists think differently (63%).

WE NEED TO BE MORE CLINICAL, BUT WE ARE NOT SURE WHAT THIS MEANS?

The new IR/DR (interventional radiology/diagnostic radiology) certificate attests to competency in diagnostic imaging, image-guided procedures, and focused periprocedural clinical care. The rationale for, and meaning of, focused periprocedural care is described in an excellent commentary by Kaufman (3). The term encompasses several broad areas of clinical involvement, including the initial evaluation and management of IR patients and their subsequent evaluation and management in follow-up. It requires competency in the performance of a focused history and physical examination and the standardized documentation of these activities. It requires competency in the formulation of a focused treatment plan and follow-up care regimen. It requires competency in the assessment of IR patients in the inpatient and outpatient settings. These areas of periprocedural competency have been mapped into the program requirements for the new IR residency (4). Residents who complete the new IR residency should be capable of providing this focused periprocedural care to their IR patients.

These are the key features of focused periprocedural clinical care for IR patients. However, as the new IR residencies get started, many details need to be sorted out. Do all IR patients need to be seen in the outpatient clinic before and/or after IR treatment? What does running an inpatient consult service mean? What does the term "admitting privileges" mean? The details will be worked out and implemented over time by the Radiology Review Committee (RRC) and the IR program directors (PDs) themselves. The broad concepts have been accepted by ABMS, but the system rightly gives the RRC the discretion to determine the details over time.

It is important to recognize that the details of what IR clinical care means may change over time. For example, consider the changes that have occurred to the clinical care provided by general surgeons during the past decade. Today, some of the routine clinical evaluation and management of surgical patients is performed by nurse practitioners. Today, some surgical patients are admitted to the hospital and managed in house by hospitalists. So we may expect that the detailed definition of clinical care in IR will change over time just as health care delivery itself is likely to change over time.

It is up to us—practicing interventional radiologists, IR PDs, and the SIR leadership—to consider the definition of clinical care in IR and advise the RRC how this may change over time.

WE NEED TO KNOW IT ALL: MASTERING THE ENTIRE DOMAIN OF IR

Another theme identified in this study (1) is the broad nature of the IR domain, encompassing imaging, image-guided treatment, and clinical care. One of the attractive features of IR, as identified by fellows interviewed by Keller et al (1), is that the clinical problems evaluated by interventional radiologists span a wide range of disease processes. The treatment options available to interventional radiologists are plentiful and varied. The field is intellectually challenging and demands expert physical skills. The job of an interventional radiologist is not easy, but it is rewarding.

Mastering the entire domain of clinical competency and technical expertise in IR is hard to accomplish within a 1-year fellowship. This is one reason why the IR residency program requirements specify that the IR portion of training is now 2 years rather than 1 year.

It is up to us to make sure that the added year of procedural training required in the new IR residency is time well spent. This additional time should be used to help trainees master more complicated IR procedures. It should be devoted to uncommon problems and procedures. IR PDs will need to figure out how to provide training across the entire domain of IR, particularly in those areas in which institutional experience is limited.

INNOVATION: THINKING DIFFERENTLY

As this study (1) shows, interventional radiologists take pride in their ability to think outside of the box. Icons in the field such as Charles Dotter, Sven Seldinger, and Julio Palmaz came up with novel solutions that transformed medicine. Innovation is the lifeblood of IR. How can it be encouraged and strengthened?

In his book on innovation, *Where Good Ideas Come From* (5), the author Steven Johnson acknowledges that new innovative ideas come from creative people with inquiring minds. However, he stresses that a key ingredient to success is placing these creative people in a fertile environment.

The new IR residency offers an opportunity to expand innovation in IR by providing a fertile environment for our

young creative trainees. We can now recruit young people in their twenties who have a penchant for innovation and thinking differently. And we can design their 5-year curriculum to make the most of their innovative tendencies. We can give them a bit more dedicated time for research. We can encourage them to start thinking about ideas and projects early in training so that they have 5 years to think things through and develop hunches or make connections. We can provide them with useful rotations on other related clinical services. We can encourage them to participate in multidisciplinary conferences and network related ideas and concepts with other clinicians or researchers.

It is up to us to foster innovation during the 5-year IR residency (6 years if you incorporate the first postgraduate year). If we can create a fertile environment for innovation, our young trainees will come up with good ideas.

CONCLUSIONS

The study by Keller et al (1) gives us a glimpse of who we are as interventional radiologists and what we aspire to become, but it is up to us as an IR community to forge our unique professional identity. And it is up to us to address some of the key issues raised in this paper. It is up to us:

- To refine the definition of clinical care in IR and promote the uniform practice of clinical care across all practice models;
- To make sure IR practitioners can and do provide care across the full domain of IR services; and
- To foster research and create a fertile environment for innovative thinking in IR.

The IR residency provides us with a new opportunity to achieve these objectives. The first full class of IR residents begins their training July 1, 2018. These are the people we will actually become. We should select them wisely and train them well.

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