As editor-in-chief of the Journal of the American College of Cardiology (JACC), I am frequently asked for tips to help make a manuscript strong enough for publication.

The first principle of overriding importance in preparing a research paper begins with planning of the research project. A poor presentation can sink a good study; however, I do not think that an excellent presentation can rescue one that is fatally flawed. Having said this, there is general consensus among the JACC editorial team that, given our acceptance rate of less than 10%, presentation can indeed make a difference in whether a paper is accepted or rejected.

The fundamental characteristics of a superior research paper include:

- **Novelty:** Provide new findings (e.g., the first report of its kind, extending/confirming prior findings).
- **Accuracy:** The data must be accurate and true.
- **Clinical relevance, or importance:** Manuscripts with implications for changing clinical practice or research behavior rise to the top.

Following are 10 specific recommendations to optimize the chance of acceptance:

1. **Pose a hypothesis:** Ask a question or at least have a clear-cut objective. Observational or descriptive data are of less value.

2. **Document the novelty:** State that the work is the first of its kind if the data are original, or state what is new about the manuscript.

3. **Describe methodology:** Give great detail or references. Make sure patient characteristics are appropriate. The best studies specify how ascertainment bias was avoided. Always include a control group. If based on analysis of a database, make sure it is appropriate for the questions being asked, etc.

4. **Provide power calculations:** Detail the assumptions and data upon which the calculation of the power size was based.

5. **Don’t slice the data too thin:** While manuscripts should not be too broad or unfocused, it is important to avoid “salami” science as well. Dividing one project into as many “minimal publishable units” as possible is a common error. The best papers make a strong argument for the importance of the individual subgroups they are reporting.
6. **Perform a careful analysis:** Don’t assert causality when only an association has been demonstrated. Use direct clinical events instead of surrogate endpoints, where possible, and if using surrogate endpoints, be sure to acknowledge the limitations. Construct adequate subgroups (make sure they are numerically accurate). Account for all important variables in a multivariate analysis.

7. **Craft the discussion:** Present all important study results in the first paragraph to bring focus to the findings and set the tone for the discussion. Don’t just repeat the results section. Synthesize the data—list implications and additional questions. Place the current findings in the context of other scholarly literature. Ensure that the grammar and syntax are correct.

8. **Create good figures/legends:** Often these are overlooked, yet they are crucial to acceptance of the manuscript. Illustrations should clearly demonstrate the finding or abnormality being reported. Use only the minimum number of illustrations necessary to make the point.

9. **Package it well:** Craft a title that clearly expresses what the work shows and pick a descriptive running title. Cute titles and eponyms for projects other than randomized clinical trials can reflect positively or negatively on the paper, so use them with care. Limit the list of authors. Write a well constructed abstract—it sets the perspective for the paper, and is (unfortunately) sometime the only part of the paper that is read.

10. **General tips:** Keep cover letters short—salient points should be in the body of the manuscript. The fact that the data was presented at a meeting does not guarantee a successful outcome through the journal peer-review process.

Experienced investigators agree that a scientific paper is both science (the project itself) and art (the presentation and the way the data, analysis, and conclusions are provided). A thoughtful presentation of a well-designed project will virtually always lead to a published manuscript.

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**Mark Your Calendar for ACC.13 in San Francisco!**

Join us for a whole new learning experience — in a whole new city — March 9 – 11, 2013!

ACC.13 will emphasize the transformation of cardiovascular care — from discovery to delivery. Join us as we look at how innovation and science impact the delivery of care and focus on the prevention of cardiovascular disease in our patients.

ACC Member registration will open Aug. 22 — plan to register early for the best selection of hotels!
Your Career in Academics: No Time Like the Present (...Literally!)

by Joseph A. Hill, MD, PhD
Chair, ACC Council on Academic Cardiology

Health care costs in the U.S. are spiraling out of control, and thoughtful and enduring solutions are urgently needed. Among them, President Obama’s Affordable Care Act, whose constitutionality was recently approved by the Supreme Court, is a major step toward providing health care to all Americans. Beyond this, however, additional major efforts are urgently needed to lessen the enormous impact of health care expenditures on our society and economy.

Solutions to many of these monumental issues lie within the halls of academic medicine. The urgent need for new discoveries—not just in biological mechanisms, disease diagnosis and therapeutics, but in outcomes research and comparative effectiveness—has never been greater. The requirement for, and frankly opportunities afforded to, clever cardiovascular practitioners and scholars devoted to these weighty topics are enormous.

Academic medicine is the domain where new doctors are trained, where lifesaving discoveries emerge and where a large portion of low-income patients receive health care. Now, as we wrestle with the need to control costs, the future of American medicine, whose birthplace is the academic medical center, confronts a “perfect” tripartite storm. This includes less support for, and frankly opportunities afforded to, clever cardiovascular practitioners and scholars devoted to these weighty topics are enormous.

Meanwhile, it is instructive to note that other countries are forging ahead rapidly in the opposite direction. China is investing enormous resources in biomedical research and education, as are Germany and the European Union. Leaders in those countries, to cite just three examples, foresee demographic shifts that necessitate greater investment in research and education, not less. In our country, we risk losing our already dwindling competitive advantage in biomedical science, and future patients will suffer.

In the face of these swirling concerns, anxiety abounds. I have spoken with quite a few students, residents and fellows who ask whether a career in academics today is feasible. Does our society really wish to see, and pay for, new medical discoveries? Sadly, some lawmakers do not recognize that rigorous economic analyses have demonstrated that an investment in biomedical research and education reaps robust economic rewards. It is estimated that every dollar spent on health care research yields multiples of return to the economy, feeding the discovery of new drugs and medical devices in private industry and resulting in more jobs and tax revenue. Beyond that, the resulting extension of productive lifespan, a noble objective in itself, leads to additional tax dollars. It is easy to see how the benefits are enormous, both to society, to our economy and to our future.

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Unfortunately, I do not have a simple answer to the nagging question ‘is a career in academic medicine feasible in this environment’. I share the widespread frustration that strong elements of an anti-intellectual mindset exist among some of our elected leaders. That being said, I am absolutely convinced that many paths to success in academic cardiology do exist today.

These paths, in my view, start with a clear-headed evaluation of where one’s passions lie. If one is passionate about providing first-rate clinical care to patients, then a career in private practice may be the most appropriate and fulfilling route. For many, though, elements of discovery, research and teaching must be included in order to fulfill our dreams and aspirations. At the risk of sounding Pollyanna, if a smart, hardworking person is passionate about attaining a goal in the biomedical profession, there is little that can stop him/her. We all face a metaphorical precipice in the launch of a new career, whether it is landing a faculty job, establishing a practice, launching a lab or securing funding. If you run as hard as you possibly can at the precipice unwilling to take “no” for an answer you will very likely make it across! That is not to say that you won’t face numerous hurdles: reduced start-up packages, rejected grants and papers, less infrastructural support and more. However, don’t let anyone dissuade you from reaching for the stars, because most smart, hardworking, well-trained young faculty do, in fact, make it!

Winston Churchill said “A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty.” The challenges we currently face are unprecedented, but the opportunities to make a meaningful difference are equally great. Medical schools and teaching hospitals affiliated with them are in a position to play a pivotal role in improving quality while reducing the cost of health care. For example, adherence to criteria for appropriate use of cardiovascular procedures could save Medicare $30 billion or more each year, while simultaneously improving and saving lives. Washington policymakers must work with academic, professional and patient organizations to create a health care system based on cost-saving approaches that focus on quality. We need bright young faculty leaders to take up this mission.

How did we get into this mess? Well, fingers can be pointed in multiple directions, but at least some blame lies with the uniquely American payment model, a system that tracks and rewards the volume of care, not its quality. A major movement is underway presently to change this, to align quality and payment. This is needed and long overdue. In fact, the ACC and AHA are proud to boast a wide range of tools that have led already to enormous successes in terms of lives and dollars saved. We point to triumphs around the process of treating heart attacks, which have already saved thousands of lives, shortened hospital stays and saved hundreds of millions of Medicare dollars. Whereas heart disease continues to expand due to modern lifestyle changes, obesity and an aging population, heart disease death rates have declined over the past decade, another clear triumph of research.

Looking to the future, we foresee using performance tools to “bend the cost curve” by eliminating needless services, optimizing quality and efficiencies and facilitating our partnership with primary care providers and other health care professionals. Harnessing these tools moving forward, we foresee even greater savings. Critically, however, a component of these savings must be dedicated to future generations, to training new doctors and to discovering novel therapies. We propose a model where we project future costs, commit to limiting the increase in those costs and share in the savings to support training, research, hospitals and physicians.

The American College of Cardiology (ACC) and the American Heart Association (AHA), two august bodies representing tens of thousands of health care providers and scientists, have highlighted the urgency of the situation. On our present course, the future of American medicine will change with long-lasting and potentially calamitous consequences. We do so, however, as just one voice in the large realm of academic medicine. The future of patients with diseases cared for by other specialties is similarly dire. The fact that you’re reading this FIT newsletter is a strong indication that you already understand the importance and power of involvement in organized medicine.

Academic medicine must emerge as a leader to right our financial ship; we must assume both downside (cuts) and upside (shared savings) risk. In light of this, we must turn the spotlight on ourselves and do a better job of providing high quality, cost-effective, data-driven care to our patients. At the same time, we call upon our elected officials to partner with us in our mission to conquer heart disease and stroke. Not to do so is economic and moral folly, and the consequences are likely to be enormous for future generations. We as a profession must take ownership of our share of the problem; we are responsible for many of the challenges we face. However, the charge now is to “lead the change” and thereby foster a bright future for our profession, and most of all, for our patients. There’s no time like the present!
Participation in “social media” is a rapidly expanding and extremely important new area in medicine. The defining characteristic of social media is the dynamic communication between individuals rather than reliance on repositories of information. This is particularly meaningful in medicine, where anecdote, experience and personal opinion can be especially valuable.

One of the largest social media outlets on the internet is Twitter. Although many people associate Twitter with things such as celebrity news and posts about what people have for lunch, it is also provide a wealth of information pertaining directly to cutting-edge cardiology. Because posts are limited to 140 characters, the brevity of Twitter lends itself to the rapid sharing of news and information. With the advent of smart phones, these small news briefs can be easily consumed throughout a busy day, and venues such as Twitter allow participants to filter a veritable avalanche of information.

There are several ways a clinician or academic physician can effectively utilize Twitter. With regard to general advice, it is best to start slowly, with a small number of sources. I suggest selectively following five to 10 other users or institutions that provide high-quality content. It takes approximately two to three minutes to review 25 posts. It may take around 15 minutes to read 50 posts. Users can also search Twitter for friends and colleagues. The websites of most journals and organizations also have buttons which will automatically allow users to “follow” them on their Twitter account.

Most major organizations or journals post links to important articles coming out every month. For example, @ACCinTouch posts a running collection of papers, case-studies and ACC-related news. Not only are links to important papers available, but by “following” other key thought leaders that are already on Twitter, users gain access to immediate opinions on papers that were just published.

Twitter can also be searched for information by topic by using what their hashtag functionality. Typing in a ‘hashtag’, or the character ‘#’, followed by a label that describes what the user is looking for, will allow Twitter to bring up all posts related to that subject. For example, a search for “#afib” will display all recent posts related to that topic. Many major conferences are also taking advantage of hashtag functionality. This can lead to an exciting “meta-discussion” of conference proceedings in real time. Furthermore, many classroom-based didactic experiences use hashtags to take questions from audience members while the speaking engagement is still in process.

Once a user is ready to join the fray, there are spectrums of ways to become involved. One of the easiest ways to start is to “retweet” an item. Retweeting is an informal way to share, endorse, or comment on another person’s post. Eventually, when comfortable, it is a short jump to posting original content. Beyond this, it is up to the individual as to how they craft their digital persona. Some people only comment on medical issues, while others post on a wide range of topics.

It is vital to remember that unless certain privacy settings are enabled, everything posted on Twitter is public, cached, and will essentially be available forever. Common sense and privacy are the watch-words. Users who are practicing clinicians shouldn’t be shocked if patients follow them on twitter, as everything they write will be in the public sphere.

It is, however, also possible to keep an account private while only following other accounts. By just being a member of Twitter, there is no requirement to post information. Twitter can be a purely utilitarian way of gathering information. If you wish to use Twitter in this way, remember to set your account as “private.”

Social media, and in particular, Twitter, can be an especially powerful tool for education, advocacy and professional community building. Good luck in the Twittersphere!
Are you Prepared for the Boards?

See if you can answer the below question from ACC’s newest self-assessment program, ACCSAP®8! Access hundreds of questions like this and more with a purchase of the new ACCSAP program, available in print and online. Test your knowledge below!

**Case:**

A 68-year-old female with diabetes and tobacco history is referred for evaluation of pain in both legs. Upon questioning, the patient states that she gets pain while standing for long time periods and walking >100-150 feet. The pain is characterized as a sharp and occasionally cramping pain in her calves, which is relieved with rest. Over the last month, the pain has worsened and occurs sometimes at night.

On examination, the patient has a blood pressure of 148/68 mm Hg and heart rate of 68 bpm. She does not have carotid bruits, and she has some point tenderness in her low-back sacro-iliac region. Her straight leg test reveals some limitation in movement. She has loss of sensation in her toes, and pulse examination reveals normal radial, brachial, and femoral pulses. Her posterior tibial and dorsalis pedis pulses are palpable but diminished.

**Given the patient’s symptoms, which of the following is the most appropriate test to perform next?**

A. Magnetic resonance imaging of the lumbar-sacral spine.
B. Rest and exercise ABI.
C. Magnetic resonance angiography of the abdomen and lower extremities.
D. Nerve conduction studies of the lower extremities.
E. Vascular ultrasound of the lower extremities.

Do you know the answer?
Select your answer choice & find out if you were right & why by clicking here.

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**The Global Prevalence of CV Disease: Focus on Peru**

by Melissa Burroughs Pena, MD

Most people do not expect a global health physician to also be a cardiologist. However, as I arrived in Peru for a one week break from the usual first year fellow clinical schedule, I was glad to switch hats. The purpose of the trip was primarily for research planning. While investigating cardiovascular disease risk factors in two regions in Peru, I could not help but notice the disparity in access to cardiovascular care.

Peru has a federally funded health care system for indigent medical care. In Lima, the hospital for the uninsured operates very similarly to a public hospital in the United States with most medical specialties available. However, in Tumbes, which is located north of Lima, the hospital for the insured lacks many medical specialties. In fact, there is no cardiologist in the entire province. Every two weeks a cardiologist from the neighboring province comes to Tumbes to see patients primarily in the outpatient setting. The nearest tertiary care center is four hours away. Yet the people who live in the small cities, towns and rural communities in the province of Tumbes are as affected by hypertension, myocardial infarction and stroke as the people in Lima.

Similar to other countries in Latin America, the burden of chronic disease in this region is further complicated by concomitant infectious disease, such as neurocysticercosis. Thus, the populations who are subject to the double burden of infectious disease and chronic disease have the least access to the medical specialties to treat complications from these illnesses.

In the upcoming year, I will be joining a research team that is measuring the prevalence of chronic disease in low-income rural and urban communities in Peru, with a focus on developing community interventions to prevent and treat cardiovascular disease. Since medical school, my primary research focus has been cardiovascular disease in low- and middle-income countries. However, this most recent trip underscores why more cardiologists should be aware of the global epidemic of cardiovascular disease among the world’s underserved communities.
Are you considering a career or have you recently accepted a position in academic cardiovascular medicine?

If so, How to Become a Cardiovascular Investigator is an indispensable course that you must attend, November 30 – December 1, 2012. This intimate and interactive course is specifically designed for Fellows in Training and residents who are contemplating a future in academic medicine. Through plenary sessions, breakouts, networking opportunities and a dinner program, participants will have the opportunity to interact with the leading experts in the field. There is no fee to attend. Please visit www.CardioSource.org/cvi for the full agenda and registration information.

Applications now being accepted for 2012 - 2013

ACCF/Merck Research Fellowships in Cardiovascular Disease and Cardiometabolic Disorders!

Four one-year fellowships in the amount of $70,000 will be awarded to support research in adult cardiology. Preference is given to fellows in training who have had no more than two years of prior full-time experience either in clinical or basic research. Recipients will be expected to pursue a full-time project in clinical research during their year of supported training.

Application Deadline: September 24, 2012

APPLY ONLINE and view more information about the eligibility requirements and research focus of the ACCF/Merck Research Fellowships at www.CardioSource.org/ResearchAwards.

For more information, please contact Julia Berman at jberman@acc.org or 800-253-4636, ext. 6648.

ACCF Young Investigators Award Competition

Award Categories include the following:

1. Clinical Investigations, Congenital Heart Disease and Cardiac Surgery
2. Physiology, Pharmacology, and Pathology
3. ACCF/Herman K. Gold Young Investigator Awards in Molecular and Cellular Cardiology
4. Cardiovascular Health Outcomes and Population Genetics

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The first place winner for each category receives $2,000, second place winners receive $1,000; three honorable mentions in each category receive $500. Travel, hotel and meals up to $1500 will be reimbursed for all 20 finalists to attend the YIA Competition at ACC.13 in San Francisco.

Eligibility: Those eligible to apply are physicians and other healthcare providers currently in residency or fellowship programs or within three years of completion, PhD, PharmD or DNP candidates within 3 years of completion of their program, and medical students.

Application Deadline: October 15, 2012

The application site will open in August. View more information at www.CardioSource.org/ResearchAwards#yia. For more information, please contact Kristin Robertson at kroberts@acc.org or 800-253-4636, ext. 6390.