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THE NEED FOR CRITICAL APPRAISAL SKILLS FOR ALL…ESPECIALLY MEDICAL LEADERS…AND WHY

Interview with Michael E. Stuart, MD, President & Medical Director, Delfini Group
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Michael E. Stuart, MD
…short story…evidence- and value-based clinical quality improvement leader

footprints: family practice physician | internationally respected evidence- and value-based quality improvement leader & helpmate | teacher | **key areas of interest & expertise**: critical appraisal, clinical quality improvement, clinical practice change, medical education, pharmacy & therapeutics, medical technology assessment, dr & pt communications and more **key guides & inspirations:** David Eddy for EBM, Dorothy Teeter for clinical improvement, Annette O'Connor for patient decision-making, bizz partner-Sheri for a bunch of stuff | **motivations & passions**: after 30 years at Group Health Cooperative in Seattle, with Sheri Strite, formed Delfini, taking inspiration from dolphins helping the shipwrecked — "I want to help change our health care environment from one in which misleading science reigns in a deadly combo with health care professionals not understanding medical science, to a new one in which 1) quality research is performed and reported well enough to evaluate its validity and usefulness, 2) health care professionals can tell the difference between the good and the bad to know what is valid and clinically useful and what is not, and 3) patients are provided with clinically useful information that helps them make decisions based on their own values and preferences" | **what makes it all worthwhile?** seeing more accurate projections of what to expect from the use of various interventions for those who actually utilize evidence-based methods, working with great people, lots of things — I am so grateful every day of my life

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Q: Mike, what one or two issues would you like to address for this interview and why?

A: **The main thing I would emphasize is the need for critical appraisal skills and tools.** The reason for or this is that no matter where you work, you as a leader — along with your colleagues and staff — will always be estimating effectiveness, safety and cost outcomes. Without knowing whether the outcomes of studies are valid (probably true) and clinically useful (meaningful to patients), it is not possible to rely on results reported in those studies. Critical appraisal can be learned by everyone, but it is especially important for leaders to understand the concepts, methods and tools of evidence-based clinical improvement so they can evaluate evidence-based QI efforts and provide meaningful support.

Q: What do you see as potential barriers, pitfalls, risks, "opportunities," or remedies?

A: Currently there are several issues:
1. Most information available to health care professionals is not based on valid and clinically useful research. Understanding what this means is key for leaders who have to respond to requests for new interventions continually, decide support for interventions currently being employed — and on it goes.

2. Many leaders, just like other health care professionals, are not aware of the link between #1. and appropriate decision-making.

3. Most leaders who understand #2. still do not know where to go to find the potentially best evidence and how to evaluate it for validity and clinical usefulness.

> *"Leaders universally need to take critical appraisal seriously and act on it locally… Teachers need to understand these principles and apply them in ways ranging from just-in-time with patients at point-of-care to participating in evidence evaluation and teaching activities…"*

4. Huge opportunities exist in medical schools, residencies, CME events and materials, journal clubs, retreats, professional meetings and other forums for learning #1-3. but amazingly, learning quickly how to actually evaluate needs, prioritize EB projects, create the necessary infrastructure, sponsor the work so that it gets done by staff, is not happening to the extent necessary. I think some day EB clinical improvement competencies will be taught effectively, but progress is slow and the end result is more of the same—studies with the wrong study design for the clinical question or the wrong methodology reporting untrustable results, or invalid studies or those which are not clinically useful to patients, which are then gathered up into fatally flawed systematic reviews and inappropriately accepted as the basis for clinical and policy decision-making. I frequently get asked about trusting high quality journals. Unfortunately the answer is that even the best journals, eg, NEJM, the Lancet, BMJ, Annals of Internal Medicine, JAMA and others publish fatally

flawed studies. Critical appraisal skills are required in order to know which studies can be trusted and to inform decisions.

And unfortunately, downstream a little further, flawed evidence-grading systems and low-quality studies are currently being rated by numerous guideline groups as good or fair evidence (for example grade A or B evidence or level I or II evidence implying that the evidence can be trusted). So often when we audit these guidelines, we find these studies to be heavily biased and fatally flawed. We strongly recommend groups audit the studies in these guidelines prior to accepting any guideline recommendations

And right now I am a bit worried about the recovery and reinvestment (stimulus) act—specifically the comparative effectiveness research initiative (CER). The issues here are the same ones described above. I fear there is a high-likelihood that political solutions and short-cuts will be taken by investigators and that low-quality systematic reviews will be the result.

We **do not need** more unreliable science. What is needed are valid and clinically useful RCTs and systematic reviews—not fatally flawed RCTs and fatally flawed systematic reviews. Unfortunately my read is that many investigators and readers (perhaps unknowingly) are willing to accept low-quality comparisons, and we may have billions of dollars delivering more of the same. We believe that currently less than 10% of published literature (over 12,000 publications a week) are either not valid (or not sufficiently well reported to determine their validity) or not clinically meaningful.

Q: If you had one wish for an ideal, what would that be? Or a vision? However you want to answer this...

A: Students would learn what we are talking about and become professionals who use quality evidence to improve the quality of our health care. I am not saying evidence is the end-all. You can make medical decisions for a host of reasons. Just that the ideal is not to be misled by misleading science — and conversely, not lose the benefits of understanding valid and informative science when it is available. The ideal is that there is a resource for valid and clinically useful information that helps all of us.

Q: What would it take for that to happen?

A: Their teachers need to understand these principles and would apply them in ways ranging from just-in-time with patients at point-of-care to participating in evidence evaluation and teaching activities.

Q: What do you see as potentially helping medical leaders and others with what you've selected to address?

A: Leaders universally take this seriously and act on it locally. In addition to making local change, they are then better able to be advocates and agents of needed change nationally and globally.

Q: Do you have favored relevant resources for any groups?

A: Yes, but it depends upon the issue or project. And for what I am about to say, everything needs to be audited for validity because of enormous variation in quality. That said, for some things, Cochrane will help; for others ACP Journal Club; there is also AHRQ and EB Practice Centers. Take a look at our website at www.delfini.org for a list of sites. Bottom line though is look to your own group, eg, yourself, your committees, your support people who can be trained to answer specific questions by using sources like Cochrane, PubMed, DARE and others and provide robust answers. (Example: Does a hypothetical new drug add value to what we already have for preventing venous thromboembolism in total hip and knee replacement surgery patients?) Of course there is synthesizing, packaging and converting the evidence to recommendations and facilitating and measuring change.

> *"I want change in which 1) quality research is performed and reported well enough to evaluate its validity and usefulness, 2) health care professionals can tell the difference between the good and the bad to know what is valid and clinically useful and what is not, and 3) patients are provided with clinically useful information that helps them make decisions based on their own values and preferences..."*

Q: Do you have other general favored resources? Medical or otherwise?

A: Yes—colleagues for when I get stuck.

Q: Is there anything you wished we had asked or that you'd like to say or address?

A: Sure, but I will be saving those pearls for another time.

Q: Any <medical **leaders** . org> **interview candidates that you'd like to hear from?**

A: Many. Will send you a list shortly to post and to get ideas from others.

Q: Do you have a favorite story for us?

A: Seems like I have one every day. Today happens to be the cleverness of my granddaughter Jane's ploys for successfully delaying the babysitter (me) from putting her down for her nap. I think she is likely to go into law, sales or some other field where she can use her persuasive talents.

Q: Finally, do you have anything else (comment, anecdote, personal story, by-the-way, etc.) you would like to say in closing?

A: Yes, I will close with this:

Each year I see more clearly that life has so much more to offer than doing the work that I love to do (even though I have never been able to leave my work for very long because of my work's strong attraction). But don't misunderstand me about this work thing—I have worked hard for a lot of years, and now I don't want to work for quite as long every day as I used to have to when I was practicing medicine. I do jog, read a lot of non-medical stuff. I love cooking (I specialize in short prep-time dinners and have a growing recipe book of quick preps—I should say several books of them—and I must tell you that cooking dinner and making special meals gives me incredible satisfaction and joy. My daughters and their kids know that Sunday is for them, and they can request stuff I know how to do or if they don't request things, they can come over and be surprised by what I cook up. They always say they love what I do (and about half the time or more it really amounts to what my wife, Linda, has rescued or fixed some how). And, beyond that, my granddaughter cannot get enough of my funky cooking lessons which of course I love to provide to her. (Puttanesca was a true bonding thing for us, and she and I remain Puttanesca aficionados. She likes to "pretend cook" in the kitchen sink and pours water onto her tea-set plates and cups for make-believe meals.)

Each year I appreciate more the things close to me and around me—my family, the fall colors, the many birds that land in the trees and hedges in my backyard, the sky, the Olympic Mountains I can see from where I live, but especially the people that I have such deep appreciation for. But the theme here really is about doing quality improvement work, much of which I now do in my home office which is like a huge gift. So to close this interview I will, instead of telling a story, condense many really great stories by listing the people who have been truly great friends, colleagues and supporters, learners and loved-ones, whom I value so much. Thank you for having the positive impacts on me and my work, repeatedly charging my batteries and providing me with things that light me up—zeal, fire, inspiration, energy, positivity, courage, hunger for further learning, love, stunning insights and big efforts to go forward with so much beauty in your own unique ways.

Big Thank Yous to you—Linda Stuart, Amy Corcoran, Vicky Bruner, Janie Corcoran, Annie Corcoran, Bill Ahuna, Brian Alper, Mick Braddick, Siri Childs, our now-absent-from-us-but-not-forgotten John Coombs, Doug Dammrose, David Eddy, Kate Flanagan-Helmes, Ted Ganiats, Attilio Granata, Rob Gray, David Holloway, Irene Rochon, Craig Stern, Dorothy Teeter, Tim Young, Art Zoloth, key docs in my life (Wendell) Pat Fleet and Paul Monahan—GREAT doctors, and Sheri Strite—and Sheri's and my special friends at various groups (you all know who you are and are so many —too many to name individually here) such as at Kaiser Permanente and most especially the Hawaii crowd, Regence Group, WellPoint Rx, Providence and CommonHealth friends, some at MD Anderson and AAFP, other individuals and some short-takes that were so wonderful and charging than I can't think to name right now and even to people whose names I do not know—but my gratitude is there. So now I will say, "Mahalo and Aloha."

PS. Forgot to work this joke in here somewhere—I don't know where I heard this, but I will change this just a tad to fit Delfini…

Question: What is the difference between a savings bond and Mike & Sheri at Delfini? Answer: Hmm…savings bonds eventually mature and make money.