You know that the BS criteria has been around for a while, it started out as a research project for a geriatrician in LA in the late ‘80s, early ‘90s and it sort of took on a life of itself. It’s been dormant since 2003, Dr. Beers unfortunately passed away in 2009 and it just sort of sat there although clearly it influences you because it’s part of NCQA hedis criteria and it’s also part of CMS criteria. Now it’s interesting that they picked and choosed what they wanted to use of the Beers criteria.

So NCQA came to the American Geriatrics Society and said hey, you know, can you help us update this? And they were able to bring along the person who led the last group which was a woman by the name of Donna Fick who is a Nurse/PhD person at Penn State and somebody that was on the panel, Todd Semla who is a Clinical Pharmacist in geriatrics that works with the VA/PBM. And then I got sort of recruited along with 9 other people and we spent I guess since, I guess we spent pretty regular time from June of last year all the way up through Christmas. We met in person a couple of times, we had at least monthly if not more phone calls, that sort of stuff.

The good news is that we got rid of 25 criteria that was there before, and some of it was that they were for lack of a better term, they were stupid, there was not much evidence and they weren’t really geriatric specific. The difference with this criteria, if you go to the American Geriatric Society website, which there’s a whole bunch of cool stuff that you can download, I mean pocket cards and the like; but most importantly is the fact that all the, all these things have evidence based tables made for them so for each and every criteria there’s anywhere between 1 to 7 criteria, 7 publications that you can go to and look at a table and get some information about the individual study without pulling
the study. And what we did was we used the chess guidelines which is sort of you know low, moderate, high strength of evidence and to get high you actually had to have randomized control trials which we know not a lot of older people get into and therefore most things got into moderate. And it didn’t get moderate until they had at least 3 really rigorously conducted observational studies, we are talking about cohort case control, no case series, you know no case reports, none of that.

The leeway sort of has to do with the strength of recommendation. I mean I think all of us in this room that practice with geriatrics realize that it is an art, the stuff that you know that ain’t in any books. And that’s sort of the fun part of it n some respects. And so the strength of recommendations is another way in which you could sort of take into account what we know, plus the evidence and sort of say you know this is stupid, don’t do it. Again it’s broken up into two sets of criteria so the do not use list and the drug/disease interactions. The best evidence that drug – that these things can be harmful is with the drug/disease interactions. There is at least 4 studies that have been published showing that if you put a drug onto somebody that has a comorbidity and it worsens that comorbidity that is by definition an adverse drug reaction. And it’s – it turns out that that is problematic.

The do not use list, I mean I think when it’s used in a punitive way saying hey, you know I saw that you prescribed this, you know you are a bad person. Well, you know that is sort of stupid, you know that may represent something at a population level but you know if that patient has tried many different things and is tolerating it well and seems to get benefit from it you know that’s maybe a reasonable thing for that specific person.
So anyways to look at this, look at the current list I mean first generation antihistamines are still on there. All the alpha blockers for hypertension are still – are still there. Amiodarone for afib because of its pulmonary, thyroid and other things, not using lots of Digoxin in people for heart failure, Dipyridamole, Disopyramide, Nifedipine, Ticlopidine. And with many of these things I mean some of the younger people in the crowd, they don’t even know what these drugs are because they are not that commonly used.

And I will tell you there was a major debate about this Nitrofurantoin that I’ll just take quite a little aside. We’ve actually had data since 1968 that was published in the New England Journal of Medicine by Calvin Kunin that showed that if you get down lower than 40 mils per meta estimated creatinine clearance the drug doesn’t get into the bladder and it don’t kill anything, okay. So it don’t work. And we had some very smart people on this panel but it was really amazing to me that people just didn’t seem to know the difference between in vivo and in vitro. You know just because it’s sensitive on that plate it doesn’t mean that that drug that you actually put on the plate is going to get from that person’s mouth into the bladder to act like it was on the plate. And I think the point is to ask people to plate more than just the usual drugs and not assume that Nitrofurantoin is going to work. So anyways many of these are older drugs and it’s not really worth talking about it much.

So what is new? Basically all antiarrhythmics are bad for afib, okay. Hello, we knew that. How about we just control their rate so they can do their thing? Given the Ryal Study and some of the
work that came out of Canada showing that you know when you start using Spironolactone in the setting of people with heart failure that also are taking an ace and or arb hypokalemia is a very real possibility. And so that’s what’s there. The amazing thing for me is that Glyburide still remains one of the most popular sulphonylurea that’s used for diabetes in this country. In Europe it’s actually known as Glibenclamide, I think I might have said this at this group once before, but basically they changed their generic name to sort of hide the fact that since 1975 it’s been known to be the worst drug than even Diabinese and Chlorpropamide for causing drug induced hypoglycemia that’s serious and prolonged and life threatening. And if you’ve got people over the age of 75 taking this drug you know you could say well gee they are doing okay, or you could be proactive and change them to something else.

I don’t know that we’ve got too many people taking growth hormone but I guess it’s possible. Sliding scale Insulin, you still see that in nursing homes. I mean the ADA two sets of guidelines ago said hey, let’s stop doing this. They don’t even do it in ICUs anymore because they think it’s too dangerous in an ICU, you know so if it’s too dangerous in an ICU why should we do it in a nursing home?

No big surprises here, Metoclopramide, gee it’s a potent D2 receptor blocker, getting tired of dyskinesia for using this drug long term for reasons other than gastroparesis where you have no other choices, probably not so great. You’ll see a lot of people getting Megace in the nursing home, pretty good data that doesn’t really gain much weight in the types of people we want to use it in,
which is sometimes people with dementia and actually high risk for getting thrombosis and there’s even data suggesting it increases risk of death. People didn’t realize that these were anticholinergic drugs, so Cogentin was and Artane were finally realized to be anticholinergic. I don’t know about you but I get confused. I used to know what it was, you know when I took it I had __________, you probably did too and you know that Nicotinic and Antimuscarinic and we were all good, and then there was like 7 different ways to call something anticholinergic. And that – even Nitrates became anticholinergic, which I must have missed that in class. But one of the things that’s nice with the Beers criteria is they sort of went across all these 7 different ways and now they’ve actually got a pretty strong list of drugs that are what are now called highly anticholinergic. So you know all the tertiary tricyclic antidepressants, they are on there. You know when you start thinking about the skeletal muscle relaxants, Cyclobenzaprine is on there and so on and so forth. And so it’s one nice place that you could go, and it actually does distinguish things like Paroxetine and Olanzapine from some of the other newer agents.

We decided to get really hard, we didn’t want people to get sued I guess, so people with dementia that don’t have psychosis that aren’t a harm of themselves or others using antipsychotics not a good thing. Even if they did work, they are really marginal in their effect size, I mean less than 18% of people get some benefit, and given the fact that it increases the risk of stroke and death not so great. I guess they forgot about Chloral Hydrate when they were sort of talking about a bad set of hypnotics before, so they picked that up, not a new thing. And Z-Hypnotics, basically since they are
benzodiazepine receptor agonists they are just as risky as all the other ones but they are cool in the way they are marketed.

There is another set of criteria that I’ll just mention that’s out there, it’s called the STOPP criteria. Has anyone heard of that before, the STOPP criteria? You must not have Irish in you. It actually came from County Cork, Ireland, it’s actually the European initiative of the Beers criteria. And it turns out that the European Union, Geriatric Medicine Society is going to adopt the STOPP criteria, so you are going to see sort of you juggling back and forth about some of this stuff. And so they have some things that we don’t have, we have some things that they don’t have. But they haven’t updated this since 2006 so I’ll just skip along here.

Okay, you can’t read this but your handout can. So there was a bunch of drug/disease interactions that were already there and I won’t you know really go over those in any great detail. Remember we actually did toss out at least 10 or 12 of these that were sort of you know dumb or didn’t have evidence that was pretty strong.

But here are the new ones. I think that there was a body of evidence coming together, the people that actually had syncope as a known problem in patients, you know giving these types of folks the common dementia drugs for ACHEI agents probably can increase their risk of that occurring again. One that I was – that I’m still a little uncomfortable with and where this sort of draws the line is this issue of anticonvulsants with falls and fractures. We’ve known for years that barbs and Furantoin and
probably Carbamazepine you know increase hepatic enzyme metabolism and that the thought was that it increased vitamin D metabolism and that was why it did it. Well now there is data suggesting that you can fracture with any anticonvulsant, maybe or maybe not with Valproic. Well what does that mean? Well nobody knows the mechanism, many of the newer drugs aren’t a sedative and the like, and you know the question comes down to if somebody has a known you know chronic seizure disorder you know and has fallen or fractured what do you do? Well you give them an anticonvulsant. And the best evidence is always still going to be with Lamotrigine, it’s been best studied in older people in the VA, outside the VA, in Europe and it is probably no worse than other things.

The antipsychotics used to be just limited to the conventional ones, the older one, the phenothiazines, all the newer agents have just as great a risk of falls and fractures. Some of the antipsychotics that actually have alpha blocking effect like Chlorpromazine, Thioridazine, Thiothixene, more of a problem with syncope; they’ve actually taken cognitive impairment and broken it up into sort of delirium versus exacerbation of dementia but I combined them. Now they are talking about all benzodiazepines and not just short acting, I mean sorry, just long acting. And a fair number of things that with heart failure you will see like with the Glitazones and the like.

One that I think actually is good is sort of putting a number on people that have chronic kidney disease where and where it might not be safe to use chronic NSAIDs in these people. And based on digging into the literature and guidelines people with 30 mils per minute probably shouldn’t be
getting chronic NSAIDs. And there is probably no difference among NSAIDs in terms of their ability to worsen renal function. And clearly they could probably have an effect on heart failure as well.

This issue with why I put question marks next to Opioids for falls and fractures and delirium and dementia, you know the point of the matter is although you know everybody is worried that you know somebody might abuse these drugs, and you know somebody might call your office because you are prescribing them and the like, you know what do you do in a situation of somebody that has serious chronic pain that isn’t responsive to anything else? Yes, it’s a risk, but it turns out at least for delirium that the risk of severe pain is 5 times greater than low doses of oral morphine. And so you know it has to be taken in conjunction with that.

Other things that you may or may not know, the SSRIs have been really well shown to cause falls and fractures in the last decade. And so have the Z drugs. So they are sort of in the bag as well. So let’s see, I will just say that obviously there is many other things that are important for prescribing isn’t there, you know like how much things cost, you know how long should people be on these medicines? You know duplication like taking two ace inhibitors, directions which may not be a problem so much in nursing homes or in hospitals when somebody is giving it to them, but when somebody has to go home and they are on q 4 hours something do you really think they are going to be you know taking it 6 times a day q 4 hours? Probably not, and so on and so forth.
And we developed this scale many years ago totally for research purposes but where we really find it’s useful is actually with trainees to get them to start to think about what are the important things to consider when you are looking at somebody’s medication and what are the factors that are most important? And I think one thing that’s probably remiss in this, in these criteria is clearly renal dosing criteria, or information about renal dosing I think could be important. I think drug/drug interactions, I don’t know about you but you know there is crazy amount of discordance out there between people’s thing and it’s interesting in other countries where they have national formularies or they have national pharmacopeias there is a list, there is 50 major drug/drug interactions and everybody knows what they are. Here we’ve got what thousands you know, you send something to one pharmacy and they tell you this is bad, you send it to another pharmacy, they think that’s bad. You put it in the hospital it’s good. In the nursing home you are on your own, that sort of stuff.

Okay, so now here is my little soapbox. So now they’ve got these new criteria, well it’s just a matter of time, somebody is going to say gee, I wonder if we should actually look at how this is doing? Should we make a quality indicator out of it? And my answer to that is maybe. But first what I’d want to know is if I looked at a chart and you looked at a chart and I applied these new Beers criteria would we get the same answer? That would be a good thing. Now chances are because it’s explicit and assuming we looked at the same things it’s probably going to be really high, whereas something like the medication appropriateness index, which takes judgment and considers many things in a chart which you know unless you actually went and looked at the same thing could be problematic.
But more important to me is I want to know if I give a patient one of these you know AGS Beers drug does it mean that I’ve got a high probability something bad is going to happen to them? Well and that’s called predictive validity, and it turns out that you know people look at functional status and hospitalization and death. Well you know all those things the last I checked are pretty multifactorial and drugs may be just one of those little factors. And so the things that we’ve looked at in our research and others is does it predict people to get adverse drug reactions? It turns out that the STOPP criteria is only one study that’s looked at that. And the way they measured it wasn’t very good. The MAI has two, the Beers criteria has about seven, five said no there is no relationship with adverse drug events and three said there were. And those are all the old criteria. And now it’s a whole new game because these criteria are out there and nobody has done reliability testing and nobody has done the predictive validity testing.

Moreover wouldn’t you want to know that if there was somebody or some health plan or health system said okay we care about this, you know so like if we were talking about Dr. Inuewe and we were wanting to focus on getting rid of you know first generation antihistamines to you know reduce delirium in the hospital, you know does it make a difference? Well also what you want to do is you want to be able to see if you do some type of intervention can you pick-up the change, right, because you know that would be important. And it’s amazing that the STOPP criteria which have been around now half a dozen years, they’ve never even actually used it as a measure in any study or any intervention at all.
So what do we do about this stuff? Well there’s all kinds of great research isn’t there? We could do academic detailing. Now obviously I’m not good looking enough anymore, or probably never was to be an academic detailer because you know I actually don’t have a suit, I’m not wearing a tie, and basically it would be a – you’d have some educated healthcare professionals act like a pharmaceutical you know representative. But basically what they are doing is counter-detailing and saying okay for this condition this is the best drug, here is what you watch out for, here is the benefits of it versus other things. It works. In the State of Pennsylvania the Pace Program actually believes this very strongly and a number of Medicaid Programs around the country have used this. The problem with this it’s very specific for a drug, group of drugs or a condition. And what happens when you use these types of measures even if the measure itself doesn’t predict something else one of the things we’ve learned in the last 5 years or so is if somebody is a regular user or a prescriber of these drugs it’s probably a good proxy that they are probably doing other things that may not be quite as good. And that’s probably if nothing else its greatest thing. And so maybe you know doing academic detailing is a good thing.

Computers you know, they are going to be the answer to everything. Personally I don’t think so. It’s only as good as the information that you put in it. I think we’ve already talked about the drug/drug interaction stuff, nothing more to be said. I’d like to think that you are going to learn something today. Good. But data shows the probability you are going to take this information and apply it to your practice is probably small. It has to be more active oriented than me just giving you information. We could have a – we could walk around with a team and since I work for Neal you
know I am totally supportive of the team, otherwise I wouldn’t have a job because I’m part of the team. But they are highly expensive. And you know – or you could just have me. And we are less expensive than having a team but then again we can’t bill and so it’s sort of theoretical anyways.

You would think with all these studies that have been done that you would have a boatload of studies that have actually tried to improve prescribing and at the same time reduce adverse drug reactions. And as these slides show you there is a grand total of 7 and we did 2 of them. And these are the type of studies that need to be done so we know that if we improve Beers-like drugs does it really reduce adverse drug reactions? And we don’t know the answers to these questions. They are expensive, they are hard to do but before somebody uses it as a stick I think it would be helpful to know this.

If I ruled the world I would change the way we deal with giving people information about medications when they are in training, nurses, pharmacists, docs. At the University of Pittsburgh there isn’t a module for geriatrics in the School of Pharmacy, Nursing or in the School of Medicine. In the School of Medicine at least we do have a week that our whole geriatric division gets to spend some time with them and they actually get a half day of medication stuff, which is better than many places. That’s just ridiculous in this day and age. You know why is it that there isn’t a list of best drugs to treat common conditions in older people? You know that’s nonbiased, that some organization that has nothing, no axe to grind or no financial gain in it would put together. And I – you know since I’ve worked in medical schools for years you know we’ve known for a couple of decades that the way to train physicians for medical school residency fellowship training is to use the
WHO guide to good prescribing. A lot of use in Europe and Australia and Canada and we don’t use it here. The University of Pittsburgh half the medical school class can take a course like that as an elective, but the other half I guess hopefully we think they are surgeons.

So in conclusion, to be good prescribers I think it’s good to have a diagnosis. I think it’s good to actually have an objective that you want to measure and keep in mind that 80 year olds are not the same as 40 year olds. I think it’s hard but doable that don’t be sucked into PDPs, PBMs and hospital formularies, be the jerk and say you know what the ace inhibitor that I know how to use is blank and if you want my care this is what I’m using because I know this inside and out and I can protect you from getting hurt. Sounds sort of Pollyanna doesn’t it?

You know information instructions and warnings is good, stopping meds, you know that’s sort of the hallmark of geriatrics. I would add a couple that I put in there myself because I’m an opinionated guy, you know if you’ve got to make a choice how about giving the preference to a drug that at least has been studied in the (inaudible). So if there is an ace inhibitor that’s actually been specifically studied in heart failure such Enalapril maybe that’s the drug we should be you know encouraging since that company actually put up instead of just winging it.

And then in the era of drugs being pulled from market, I’m sort of from Missouri by way of Massachusetts, North Carolina, Minnesota and now Pittsburgh and if 7 years haven’t passed I’m not recommending it. And you know who knows what is going to happen with some of the newer
drugs? But you know these trials don’t have lots of older people in them, the adverse effects that are more than 1 in 1000 that could be life threatening are never going to be discovered before the drug gets marketed and postmarketing is still sort of a – you know a free for all. And so unless some drug totally is going to replace something else that you really know how to do and it’s so much better or it fills a gap that there is nothing else, you know use it with caution. And with that, safe travels, have a good drink for me.