>> Marshall McBean: Product Service ID and associated variables.
Who has not heard of the NDC, the National Drug Code? Has anybody -- has
never heard of it? Okay. So what is it? What is it? Where do you find
it and how is it formatted and who assigns it? Okay. So here's the Product
Service ID -- it could also be called the NDC code; and to correct something
or to improve on something we were just having fun with, it is always the
NDC 11. It will always be an 11-digit code -- and sort of, praise the Lord,
because I tried working with NDC codes -- I don't know, 15 years ago, trying
to figure these out; and, yes, there's 10s and there's 11s.

And finally, the group that Barb mentioned earlier, which I never remember,
the National -- I have it here someplace. What's it called? The National
Council on Prescription Drug Program; they got everybody's act together.
And so they now, for all of the NDC codes that have been created, they've
put them into this 11-digit format, 5-4-2. It's like, you know -- I think
this is the defense used by the Minnesota Vikings, you know, 4-5-2
[laughter]. You know, other places, I think in Chicago they do a 4-4-2.
They don't need that 11th person, you know, and -- you know, there are
others. So, there's different combinations based on what's at the top of
this slide, which says the labeler code could be four or five. The product
code, which is what the drug is, basically, could be three or four, and
the packaging code could be two or one. So, again, think of all this
confusion that, thank goodness, for you, comes down to this, the 5-4-2
format. So you will see for the NDCs or the Product Service IDs that are
in the Prescription Drug Event file, all the data you will work with will
have that format period end of -- I mean, that's cool. Okay? Those three
minutes were worth listening to because it solves a huge number of problems.

Now, here's an example with an ACE inhibitor, Ramipril, which she used for
treating hypertension. And those -- I know there are enough pharmacists
in here that I'm not going to get away with anything, and so if I make
mistakes, you know, please correct me. But here's one drug, if you will,
okay, kind of a drug. It has a labeler, okay? But, if you look at these
three different examples -- so here's, 1.25 milligram capsules in a
100-milligram bottle. Here's twice the strength, two and a half milligrams
in a 100-capsule bottle, and here's this drug strength in a 500-capsule
bottle. And for those of us who are, you know, crazy, worrying about bottle
size, you know, why worry about that, but that's in there, okay? But, the
important stuff is, if you look at here, the product, notice the product
changes, the product portion. Now, why would that change? Because it does
change, okay? It's a different product, okay? Product in a sense of one
is half the strength of the other, okay? And so the packaging -- this is
one that is a little bit silly here -- is if it comes in a 100-capsule bottle
with the 500, then it has a different identifier. Okay? So, if you begin
to think about all of these different combinations that are possible --
holy cow -- there are, you know, this many NDC codes out there and if the
computer works right, I'll show you some examples before I'm done. But,
if you look at this -- so here, the labeler with 2-4-5, right? Product
was 3; 5 plus 3 -- 8; and then 2 for packaging, okay? So here's the NDC
code that would be out there if things had not been codified into the NDC
11. And so, what the NDC 11 process does is it puts a zero in here in the
right place so that you get the 5-4-2 configuration. Okay? So you could

either say here, the zero is being put in there so that this becomes not a three, but a four-digit number. Okay? So, again, the process is pretty simple; you don't have to worry about it, it is done for you, but there will be things that, you know, if you're a beginner and you say, "Let's go get all of NDC codes for the Product Service IDs for Ramipril, and you say, "Oh, there must be like five of them." Well, there aren't. There'll be like 40, or 70, because of all these variations. Okay?

And now, the talk is labeled "Product Service ID and Associated Variables." So, these are the associated variables; they include the brand name, the generic name, the strength, the -- excuse me, the dose strength description, the dosage form code, and then the actual -- it's a 60-column variable, the actual description of the dosage form code. Now, a couple of things to say about this; one is, these are technically the Drug Characteristics file. Remember, an hour and a half ago, we said there are these characteristics files? One of them is the Drug Characteristics file.

The second thing here is the asterisk which has source First DataBank. Anybody heard of First DataBank? Yeah, it is a big repository of all this information. And it's not unique because there are competitors and we'll talk about those later, something called Medi-Span, which is sold by Wolters Kluwer, is another one, and Multum is another. But these are people who have taken these NDC codes and done a lot of work to organize them in just some useful ways. What's happened is CMS purchased from First DataBank their services to take the NDC codes -- or the Product Service IDs, and put what First DataBank thinks is the brand name, the generic name, et cetera. Okay? So, the dilemma is that the variable information that you want more than anything is therapeutic class. You mentioned diabetes, other -- I want the drugs used to treat diabetes. Well, you know, it's not there. Okay? The drugs to treat diabetes include Metformin, Sulfonylureas and so on, each of which comes in, you know, 87 different forms. So, if we were to find, or look for the NDC codes for the drugs that treat diabetes, and so this list this long; and in a few minutes, we'll talk about how we work on that particular problem. But First DataBank gives this information to CMS, which is then passes on to you and me, but they do not give therapeutic class. Okay.

All right. So let's look at some of these. So this is -- these next few slides are essentially -- one, two, three, four -- six different Product Service IDs. If you were to look across this, the first part is the left-hand side, if you will, of the slide and then this is the right-hand side, so there's some repetition there. But the first row is Prednisone, so the brand name, or you see the Product Service ID, of which I can't make any sense out of that. Then, there's a brand name and a generic name, the strength, the DCDF, the drug code dose form, and then as you go across, that's a tablet, and then there's a description tablet. So, you can, again, see four several of each drug you see.

A drug includes, for example, flu vaccine -- it's interesting; that's a drug -- Lovastatin, ends in --statins, so that gives me a clue that it must be a statin; and then Omeprazole which is a proton-pump inhibitor and a couple of other drugs.

So, these are the, again, the Product Service IDs and the associated variables. And so, sometimes you would see the brand name is the same as the generic name, sometimes you see it's different. So, what I've done here is I put up three examples, and the third one is the most complex and kind of gets to what you think you're talking about -- actually, two and three would, but let me go through the three examples. Hopefully they'll be clear that help us think about how to use the Product Service ID and these other variables.
^M00:09:48

So, first one is kind of an idiot's question. What are the top 10 drugs paid for by Medicare Part D? Okay? At least, I was smart enough to say "Paid for by Medicare Part D," okay? I didn't say "Used by the elderly," "Used by Medicare beneficiaries," okay? If you're working with a Part D data, remember, again, based on what you and Barb were talking about 15 minutes ago, you're constrained by what the data contain. Okay? So I think it would be correct to say in a question, what are the top 10 drugs paid for by Medicare Part D. Okay?

Now, then there's another question. Let's look at drugs that have been -- that are being used by a cohort that you're already identified. So the Cooper Institute, people who have coronary artery disease, what drugs are they taking? Someone who's studying rheumatoid arthritis, what drugs are being used by my cohort?

And then the third example is, suppose you want to start from the drugs -- Seth, I think you were talking about it. Well, let's find all the people who are taking alpha blockers, or let's find all the people who are taking statins, and that will be the way we create our cohort. So, each of these are slightly different and each of these requires maybe additional, some additional thinking. The first one though is kind of fun, maybe fun, but gets us started. So, again, we're beating on this thing about the benzodiazepines and it's interesting to hear that they will be covered. There's some circumstances in the future, but, again, it has to be something that for which Medicare paid, and then the question, this is sort of that why it's still not a very precise question is if you were to try to identify the top 10 drugs, how would you do that? Would you do it by...

>> [Inaudible audience response].
>> Marshall McBean: Okay, claims. Okay, prescriptions filled. Okay, it might be a good way, top 10; prescriptions then count, thank you. You might do it by beneficiaries, right. Top 10 based on, you know, what were the most frequent -- which -- what was the number of beneficiaries using each kind of drug, or you might do it by cost because, you know, the only thing anybody cares about is cost; "All right. Let's rank the drugs by cost." So, even trying to answer the question, "What are the top 10 drugs?" You know, it gets you into this, which one -- which would be interested in? So, what I thought we would do is look at the rankings in three different ways, and one is looking at the Product Service IDs, okay, that's one idea. What are the top 10 Product Service IDs, then we could look at what are the top 10 generic names and then brand names, and you could do, you know, lots of other things, costs, et cetera; but let's focus on maybe those three

variables because those are the ones in this part of the talk, or this part of the workshop.

So, okay, using the 5% sample which is what most of you would work with, in 2008, these are the top 10 drugs. I don't know, is it interesting? Anything? I color coded these about a year ago. I can't remember why I put some of the things some in color and others not, but I do remember a couple reasons, but anything? And if you were trying to say, "Okay. Let's look at the top 10 drugs? Okay? Not people, not cost; just what are the top 10 drugs, okay?" And you did it -- did your search by Product Service ID, sounds pretty good, except, look at this. This is the same drug, right? And so it seems to me that if I were going to do this by Product Service ID, I got to add these two together, right? Which would bump, you know, .6 and .8, it puts out ahead of this one. So, doing things by Product Service ID isn't terribly useful, I don't think. Okay? Because there are, again, so many Product Service IDs associated with one drug, be it a brand name or a generic. Okay? So I don't do that, okay? And this is kind of -- it's interesting what you get though, and the problem would be just says that something like these rather, I would say rare drugs, but some of these like come in one dose, you know. All women are 50 kilograms, okay? So you get one dose [laughter]. Right? I don't know. I mean, if there were drug for men and women, there'd be two or three, right? And -- but, you know, all women are 50 kilograms, so we have one strength. Okay? So there's only one Product Service ID and it's all injectable, so bingo. Okay? Right? I can, you know -- I can make of anything I want. You guys are too polite. Okay?

And if we did it by generic name, well, this one really flipped my switch when I saw it the first time. What's the most common generic drug [laughter]? Huh? What is that? I know -- I know. What is it? It's Levothyroxine -- sorry. What is that drug? It's Levothyroxine [laughter]. You ask a stupid question, I'll give you -- it's for people who have thyroid deficiency. Okay? But, I mean, we're actually studying this because of this table, okay? I mean, here's the most common generic drug out there and no one's studying it and no one's studying whether it's doing any good. Are there clinicians here? How many people have prescribed some thyroid medications lately?
>> They're way overprescribed [inaudible].
>> Marshall McBean: Okay, way overprescribed. But this is a heart guy [laughter], or then [inaudible], you know, late -- sorry, this is not sexist, but, you know, they generally tend to be women who have problems with low thyroid production and they're given the drug, but then they're not monitored very well. Okay? They can go on years and years and years without monitoring, and so that's actually what we're going to look at and see how well they're monitored and if there are any side effects. But here, again, the main point is, depending on how you ask your question, you get a different answer. Well, that's a really good point, that that's not designation. It's the generic name and I want to say because I've been briefing myself on this stuff for the last 48 hours, it's what First DataBank calls a generic name, too. But, you're right, there could be brand names associated with that. Okay? But then if you do it by brand name, well, it's -- Lisinopril, it comes up number one. So just, again, you're asking

a simple question and depending on how you like to slice your data, you
get different answers and had we done it by cost or something else, it would
be even more strange. So, anyway, and these are all these people in Texas,
okay [laughter]? Go look at that.

Okay. So, what's the answer? I don't know. It depends on how you do the
analysis. We got -- now, this is more serious stuff. So, now, finding
drugs for a cohort that's already identified, and so, again, it would be
-- you want to study people with diabetes, you know, what drugs are they
taking? Rheumatoid arthritis. And, actually, I think I want to start with
one of my bottom lines here, the empirical approach. Let me start with
that because two of you have asked me questions today relevant to kind of
this discussion, like how would I find the drugs that are being taken by
my cohort or by my crew? Okay. How do I know all the drugs that are being
taken? And if you can get the data, if there's a way of you having some
data, before you start your study, empirically, just take all your people
with rheumatoid arthritis and look at the drugs they got. Okay? Those
are, by definition, the drugs used to treat rheumatoid arthritis. Okay?
And, yeah, I think it's a good rule within Medicare data sometimes when
you're a little stymied and you don't know how to proceed, think about,
again, an empirical way of testing or looking for something because the
data will tell you things. You don't have to go to a bunch of pharmacists
or a bunch of experts to find things out. Just look at the data. So, it's
dumb comment.

Okay. So, the question could be what percentage of my population with
disease X, or after procedure Y, or whatever, fill the prescription for
drug Z, or a group of drugs? So, now, the question is, what's the drug
that says down the bottom here? Because you could be saying -- asking,
"Were they taking a specific drug?" or you could be taking -- "Were they
-- what drugs were they taking?" And, I'm trying to grab my train of thought
here -- that you could look at the drugs, as we said, "Either by Product
Service ID, Bene ID -- I'm sorry, brand name or generic name -- where you
would probably do a proc sort nodup by Bene ID and one of these. But, which
one would you use? Would you use the generic or the brand name? And as
I say here, I'm not sure what you would do. I don't want to take us on
a little side venture here. You know, what's the drug anyway? Okay. You
want to ask, "What are the drugs that people are taking?" So, we're trying
to find a drug and here are all the different -- or a segment of the different
dosage form codes and the dosage form code description. Oh, I know that
because I put that [inaudible]. Anyway, so here are, you know, aerosols,
okay? Different kinds of things like that, and the next one, [inaudible]
were capsules. Okay, that sounds like a drug, right? But there are also
medicated pads. Is that a drug? Okay. Is a bar of soap a drug or a bar
of something? So, it's kind of funny -- here's a tablet, so that looks
pretty good; but there are disposable needles, all kinds of things that
are in there that are labeled actually as drugs, but, they may not meet
your criterion of what is a drug.

^M00:21:16
>> Where are these from?
>> Marshall McBean: Okay. These are from -- thank you for the question.

If we go back here and you look at the Product Service ID and its friends, okay? So, if you go across for every Product Service ID, there's the GCDF, the drug code -- I just cannot remember what it means; and then, the actual description of the form it comes in, the drug form. Okay. So that's what these last tables were about. And just to point that while this thing looked pretty good, tablet, tablet, capsule, tablet, disposable syringe -- maybe not so good -- tablet -- there are a lot of things that are in these drugs that may not be drugs. So, when you're trying to figure out what kind of drugs is a person taking, you might want to ask the question, "What's the drug?" And I find that a little bit dangerous because I don't know that I would limit it to tablets and capsules. I think the aerosol, you know, what you think about people with chronic obstructive lung disease, you've got to include some things that aren't tablets and capsules. Okay?

So, it's a tough question if you're trying to answer the question, what are the number of drugs that someone is taking. Okay? Anybody have a solution, because I'm going to try to think of one while you're thinking also. I mean, there are publications that say, "The person in our population of whatever, the average number of drugs was taken during the year was 4.2 or 8.7." They never tell you where they got it. Okay? I mean, I don't see that. I don't want to say they never because I haven't read every paper, but I find that as a little bit of a dilemma. Okay? And what I would suggest and it's-- again, it's having a little bit of a discussion and maybe the cart before the horse a bit, is that people could say we looked at these therapeutic classes of drugs, okay, because when I get to you to this pot of gold, this thing called therapeutic class, if you say, "I'm going to include either a list of therapeutic classes like the antihypertensives, the anticholinergics, the whatever, then, you can -- you can be pretty sure that those are drugs, okay? And it sounds like drugs and if you actually were to look at what's included, you could feel pretty confident there aren't these outliers.

So, I think one way to go about it is to say, "In -- or in your looking and trying to decide how many drugs was somebody really on, is again, you'll have to go and -- to one of these proprietary instruments like Medi-Span or First DataBank and say, "Let's just take the drugs and these therapeutic classes," or I should even say -- say drugs, you say, "What's in these therapeutic classes and you've got a pretty good chance that they're all drugs, whatever I mean by that, because in the area of pulmonary disease, they'll have the discs and things like that. In the area of endocrine diseases, they'll have injectable insulin and things like that, and they won't have the outliers. That's my solution.

If you're doing a study comparing the pace population in Pennsylvania, okay, these are people on drug assistance with the program in New Jersey, okay? It has a name like PACE, okay, and you're trying to see, you know, how many drugs is this group on? How many drugs is this group on? Well, if you have a few needles and syringes and a few, you know, [inaudible], you just assume that they're the same in both and you go forward. And I think many people do that, it's just if you start looking at the Product Service ID, okay, or a brand name or whatever, and you start doing a proc sort no dupe, there's some stuff in there that just aren't drugs because in that no dupe

key, you're going to get Lisinopril, you're going to get statins and you're going to get other things. And, so, my caution, again, would be -- I'm repeating myself -- work with the therapeutic classes and you'll have a better answer; but, again, if it doesn't matter in what you're doing, and maybe you have an elevated number. Okay? But, who cares? Maybe the real number of real drugs is 6, but you get 8.4. So, you might want to look at a population and say, "Identify all beneficiaries with hypertension," which you could finding using the ICD-9 codes, who fill prescriptions for, in this case, angiotensin receptor blockers, or ARBs. Okay? Now, that's not too bad. Okay? Because here are all the ARBs. There are only seven, okay? And here are the generic names and the brand names. So, that sounds pretty good. Okay? You could actually type in these words. Right? And if you're -- and you might actually find all the people who are being treated for those treated with ARBs. In addition, there are combinations, okay, so you have to make a decision. It's something that has both an ARB and a calcium channel blocker, is that an ARB. Okay? Do you only want people treated with pure ARBs or combinations, so that's, again, a bit of a subtlety, but, again, there aren't that many different combinations, as best I know, could find there are only nine. Okay? So, you could, again, put all this information in there and, as I say here, not too difficult.

Now, again, remember the empirical approach, I could have taken my group of people with hypertension and then seen all of the drugs. Now, the cool thing about the naming of a lot of drugs is the drugs that end in "ol" are beta blockers, the drugs that end in "ine" or whatever [inaudible] in there, there are calcium channel blockers, the ARBS, all end in "ol." Right? No, they're "artan". Okay? So, you could find them, okay? Or you just Google "angiotensin receptor blockers" and they'll give you a list. Okay? One of the problems with that is they'll tell you those that are used in Egypt, in Bangladesh, and all other places, okay? But if you go the empirical approach, they'll tell you which, you know, it'll tell you which ones are being used and paid for by Medicare. Okay? But, it's a finite list and you can do things like this. Okay?

Would you use brand name or generic name? I don't know. Either one I think would work. Don't make a type -- you know, and type them in wrong because what I noticed when I was doing this, if you see here, here's the actual generic name as put out by First DataBank, and notice the ones that have hydrochlorothiazides in them. Some of them, they didn't have enough room to get the last E in there. Okay? So do the copy-and-paste. Don't type. Okay? And, again, double check and whatever because if you put the wrong information, then you'll get the wrong information out. But, again, a lot of what I was saying 10 minutes ago or so was, you know, life is tough, you don't even know what a drug is, okay? But here, here's an example where, you know, with a half hour's worth of work, and [inaudible] a friend who might be a pharmacist, you really could, you know, find certain drugs and certain classes of drugs fairly quickly and get on with your study.

Okay. Now, this link didn't work before, I don't know if it worked now, but I've also found this thing called common data hub, and kind of a fun place to go sometimes when I'm looking for information about Product Service IDs and things like that, and I just stumbled across that, again, about

a year or so ago, and it's got all the NDC codes. So like for Benicar --
yes, I can't find it, so I can't show you, but it's got this wonderful table
about 20 columns, and then for every Product Service ID, it's got all that
information that I've been talking about, the original NDC, the 11-digit
NDC, what's the drug [inaudible], who's the labeler and all kinds of stuff.
It's kind of a fun, and it's open source. So, that's where I go off. I'm
really trying to understand the complexity of a certain drug.
So, again, there are simple ways when you're studying a fairly narrow topic
that you can actually go through and find the drugs. And, now, here's the
discussion coming in at the backend of what happens if, you know, what is
a drug. I've done that already.
^M00:30:57
Okay. Deep breath. And I think this says -- yeah. "Would you just Bene
ID and Product Service ID? Would you count brand name? Would you choose
generic name? I'd pick one or the other to tell you. Okay. And
eventually saying work with therapeutic classes.

All right. Now, how about selecting a cohort based on drug utilization?
And, again, it might be simple, okay? So we want to find, you know, a cohort
and we're going to use -- well, an easy one, again, would be something like
prostate disease where you want alpha blockers 5-ARIs combinations.
That's a fairly small list. But, suppose it was it was something like
hypertension, not just the ARBs? I mean, that's a huge list of different
drugs. And before I forget, let me also say that when you start using these
classification systems, you're at the mercy of the classifier, so that a
5 alpha blocker, and you can tell me which one; some are actually used for
prostate disease and some are used to treat hypertension. Okay? And so,
if they chose to put one of those drugs that you like to use for prostate
symptoms into the antihypertensive group, you know, you can't do anything
about it because they've done the classification, but you can at least know
where the problems are because they'll show what you drugs are in which
group. But just a caution when you're working with these systems.

Okay. Let's see. Now, one of the problems as it says down here is that
if you want to look for drugs based on these Product Service IDs, again,
if it's a small number like the ARBs, not a problem. If you say, :"Well,
let's just -" I'm sorry, you can identify the -- sorry -- you would assist
on -- sorry, for identifying stuff using the CCW, only back up [inaudible].
And maybe I'll start with this point here. The people at the Buccaneer
Chronic Condition Warehouse will not do a search on brand name or generic
name, and maybe the reason is I don't know really why. Is that because
it's First DataBank, and you might spell things wrong and all those little
caveats. They don't want to get stuck giving you back garbage because
somebody made a little mistake, but they will not do that. They will search
the on-product service IDs. Okay? So that's kind of cool because if you
can identify a relatively small number and, you know, and get them to them
in a machine readable form, you're in good shape. Okay? But, the problem
is, again, if you're looking across a broad list of drugs, or a drug category
like antihypertensives, who's going to give you that list? Okay? And so,
I think you're kind of stuck and the only way you can get out of that being
stuck is by buying a commercial product that will help you. And so, let
me do a little bit of a sales pitch, I guess, if you will, that will tell

you something about these commercial products that help you not only find all the ICD -- I'm sorry, the Product Service IDs, but get into this therapeutic class business.

So, determining therapeutic class, you know, if you've read studies, they say we used, you know, the therapeutic class of drugs. It might be anti-diabetic drugs, it might be antihypertensive statins, et cetera, and they don't usually go into much more detail than that, but what basically they have done is they've identified using one of these products, the therapeutic class; and within that therapeutic class, somehow this product has spit out all the Product Service IDs or the NDC codes. And the products that I know that are available, one is public up here which is the FDA. And that one, people have actually tested because it's free and it's not very good. The people at Buccaneer tried to find -- I think it was back in 2008 the various -- or they tried to use the Product Service ID and to find the drug within this database, and they only got about 83% and that just seemed too low. But if you use these products, you seem to get around 100%. So if you work with them, you can, again, go in other direction. You can start with the Product Service ID and find out what drug or what therapeutic class of drug belongs to, or perhaps more importantly, you can select a therapeutic class and then be given all the drugs that are in that class.

Okay? I'm not sure all that made sense. So, let me try again.
So, that the question here is, let's find all the people who are taking antihypertensives. And so you want someone who has gone in one direction and said, "Here are all the NDCs and we're going to put them into" -- and they have about 89 different therapeutic classes, if you will. And so, we're going to start with antifungals, antibiotics, they get to [inaudible], they get through cardiac, and all of those drugs have been put into groups. Okay? And what you're buying from these group -- from these company is this side going this way; you're saying, "I want all the antibiotics." And so you pick certain code ranges and it will give you all the NDC codes for the antibiotics and then you just run those against your prescription drug event data and you get all the claims.
And, so they've got a whole bunch of different therapeutic classes. They put them into something called the GPI just because they can use a proprietary term, and, again, they have organized the drugs, you know, hierarchical way, so that, again, if you start with -- what's the more generic word than antibiotics? So anti-infectious agents. Okay? And then within that, they've got antibiotics, antifungals, things like that and so on down. So, it's a 14-digit code that organizes things. This is just one of their examples where they have -- the bigger term is miscellaneous endocrine, then -- and that's identified as a -- first two digits of 12 and then it needs to come in two-digit pairs; and, eventually, if you wanted to find a class like posterior pituitary drugs, you'd use these two sets of numbers and you'd get all of the posterior pituitary drugs. If you're looking at antihypertensives, all antihypertensives are cardiac, I'm going to make up the numbers. This is like 22, hypertensives would be 22 --15, and then within the hypertensives, 22-15 1 -- 0-1 is calcium channel blockers, 0 or it's usually 1-0; and then 2-0 would be beta blockers; 3-0 would be ARBs; and then 4-0s ACEs.

So, you can find, again, the point being, you can find the drug class or subclass, class or class, or even a specific drug that you want and get out of this system the Product Service ID or the NDC code, and then you use that to identify the prescription drug events that you want in your PDE file.

^M00:39:36

Okay. So, again, I'm trying to go back to where we started. The purpose here is let's find all the people with -- who took a certain kind of drug. So that's your -- it's your study. Let's find all the people who were taking drugs that treat benign prostatic hyperplasia. Okay? You know what they are, you can go find them, plug it into here and you get every drug, every prescription, and every person treated with those drugs. Yeah, you pick the drug group that you want, okay, broad or narrow, okay? You can look at it, okay, and that's one of the nice things, you know; if you picked alpha blockers, it would tell you in one of their files. They have multiple files like 12 or 14 different files that you have to negotiate. But, it'll say, "Here are the ones that we put in alpha blockers." Okay? And then it will tell you which ones they put in 5-A or ARIs. Okay? Or, again, if you're looking at antihypertensives, you would say these were the ones we categorized as calcium channel blockers and then in other categories the antihypertensives. And you can search around. If you want to add something, you can go do that. Again, I'll get it wrong but there's, again, one of those alpha blockers that used in -- is used in hypertension. If you didn't like that was excluded, you can go into the hypertension group, find that drug and we'll stick it back over here. Okay? You can move some things around because they're actually done at this GPI. So, you can do a GPI 14, which is exactly that rogue alpha blocker and exactly the right dose you want. In fact, you probably would just use probably the 10 -- the drug name, the 10 unit on, and I know that's a lot of words to say for something you haven't seen; but, you can do a very precise job of finding the drugs you want.

A good question, there is no, you know, rule that says, "First DataBank and Wolters Kluwer Medi-Span do it the same way." We thought, you know, "If we had an extra 10,000 bucks, we might buy First DataBank and see whether they actually did it the same way." That would be actually a very nice public service because then, you know, people would know that they didn't have to worry about different classifications. We haven't done that. But, you don't know -- but, I think they're all working to the same goal, which is to make money, therefore, do it correctly and they're all [laughter] -- and they're selling to people who are a lot more concerned about this than I am, or you than a researcher, say, they want to get it correct. Okay? So, there a lot of incentives and probably incentives to have them be about the same, so I wouldn't worry about that.

Okay. So, the issue is on these products, it does cost money, as I said, about $5000 and I've already talked about drugs that have therapeutic -- different therapeutic indications and you've just -- one of them, a good example of drugs that have morphed, which have transitioned from one use to another that could be classified in an inappropriate way. And then, you can't get this information from CMS, and we chose Medi-Span because one of the faculty here helped developed it many years ago.