>> In this section, we are going to look at the files that you can supplement. These are PDE files, so the first file is plan characteristics file. So I'm going to look at plan characteristics file and then Barb will discuss prescriber and the pharmacy characteristics file.

So, what is a plan characteristics file? So, this file contains information about plan type, benefit design, premium, cost of sharing and service areas of Part D plans. So, as the name says, it's all about Part D plans. So, it has actually really comprehensive information about plan characteristics. So, these plan characteristics while then you might ask why do we use this file or so, what we can do with this file. So, when do we use this file, right? So these are just a couple of examples here. You can examine characteristics of enrollees by plan type. We have been contrasting this MAPD versus a PDP and who are in these two types of plans. Are they different? So, you can look at those. And medication utilization or cost, anything we have discussed are so far used in PDE. Now you can look at those things by plan type, by linking those files with this plan characteristics file. Or you can estimate the plan [inaudible]. It is simply basically where I want to look at whether beneficiaries responded to premium when they choose their Part D plan. Simple, it's likely their beneficiaries are less likely to choose a plan with a higher premium. So, you can examine all using this file. And also, if you are not interested in plan characteristics file, you're interested in comparing gen--you know gender differences or race differences, still you may want to control for this plan characteristics in your regression model. So, you may need to link this file with the OPD.

So, plan characteristics file consists of four subfiles. So, one is--the first one is the benefit base file and premium file, cost sharing tier file and service area file. So, you can actually see from the name, oh, OK, what kind of information you can get out these files. So, I'm going to look at these files one by one but I'm going to really mainly focus on the benefit base file, and it is a really base file and it has main--most main information in this file [inaudible]. But before we get into this one, just one note that I want to emphasize that [inaudible] records of these subfiles are different. So, I'm going to actually point to these identifiers as I look through and so, you have to pay attention because when you link these files to any other files, you need to know what identifiers you have to use, all right.

So, a couple of general comments on the plan characteristics file. The first that the IDs are encrypted but another thing there are two IDs. So, you have to use contract ID, both contract ID and plan ID in order to identify the plan that the beneficiary is using. OK. So, always, it is almost it's 100 percent that you have to use these two identifiers together in order to know, oh, this plan is where this beneficiary is enrolled. OK. And these files can be--we discussed this, that these files can be linked to a beneficiary summary file or a PDE data using these two encrypted contract and plan IDs. And plan characteristics file is also created by--from an end of year snapshot and this cannot be linked to any public use data like [inaudible] file available on the CMS website.

The first, OK, benefit base file, this contains information on plan type and the drug benefits. And here the one record represent contract plan. So, Marshall discussed yesterday what the contract ID is. So, this contract IDs, contract identification number is unique to each contract with the CMS. So, this basically represents unique organization, UnitedHealth or [inaudible], right? So--and they said, oh, we are going to provide Part D in the benefits, then they make contract with the CMS and then they--the control number is assigned to that organization. So, it's encrypted except for the first letter of this ID. Anyone remember what the first letter represents? This is some ID you saw last, yesterday. It's just yesterday, a few hours ago. OK. So, what's the H? If it starts--if contract ID starts with H, it means that it's a local Medicare organization. And if it's R, it's regional PPOs, and if it's S, it's a standalone PDPs. And if starts with E, it's employer direct contract plans and I underlined direct because there is another case that even though it doesn't--plan doesn't start with E, there are still some type of employer's master plan. So I'm going to mention that in later, OK. And H--also in H might include not just the local Medicare organizations, this H includes or it's cost plan or a demo plans or some National PACE plans. But anyway, so these are the contract IDs.

But what is a plan ID? So plan ID is as you see here, this is a plan benefit package number. So this indicates a specific benefit package within a contract, within an organization. So if you are UnitedHealth where you say that, "Well, we are going to offer party benefit," but then I can sell policy that provides standard benefit, right? Deduct the recent coinsurance and coverage gap. And then United is thinking, "No, no. Maybe beneficiaries may like tiered copayment instead of a deductible." Some beneficiaries would like deductibles. So, Part D plans are allowed to modify the benefit. So I'm going to remove my deductibles, instead I'm going to implement a tiered copayment. This is a different policy, right? And then, well, I'm going to provide coverage for the gap. That's another plan, another benefit package, right? So then, when UnitedHealth assigned this contract ID, say 8000, so the first plan ID is XXX. This is a standard benefit package, right? And then YYY, so it doesn't have a deductible, but it has a tiered copayment. And then ZZZ, oh, we have coverage for the gap. Now, you can see why these two IDs have to go together, right? So contract ID simply just indicates that--well, organizations this--it already belongs to. But then, in order to really know the benefit package, you have to use this plan ID. So just to, you know, to put them together and then use as if they're one ID. And again, this plan ID is encrypted, so obvious--so this is right.

OK, this is--shows--this shows a number of contracts and plans. So now, you can see here that--why the number of a plan should be greater than or at least equal to the number of contracts, right? So with the employer direct contract, yeah, there is no variation. If you are employer and you have direct contract with the CMS and just one plan, OK? But otherwise, on average you can see, MA-PDs, on average, they have probably six different benefit packages. So you can use it. There's a first letter of a contract ID in order to find an organization type, but on the other, there is a separate variable called organization type and it gives you a little bit

more detailed information. And here, you actually find even though the contract ID starts with an H, you can know that whether the plan is local managed care plans or whether they have cost or some demo plans. So you can use this variable to exclude these demo plans if you need.

And then there is a variable called a plan type. It's a little bit more further broken down information and among those local MA plans whether it's an HMO or whether it's private people service or PPO, you can get this information, this plan type. And also, there are indicators of a demo plans and the special need plans. And then there is another variable called Employer Group Waiver Plan which I want you to pay attention which I'm going to look at here. So this EGWP indicator indicates an employer [inaudible] Part D plan. So how is this different from the employer type of the contract which starts with E? So all those employer direct contract plans or employer [inaudible] plans and they will have the variable one for this indicator. But there are other plans even though starts with the H or S which means that even though it's MA-PD or a PDP, still they are employer's master plans. And I--we said, we actually learned that employer's master plans are not required to submit their benefit information so you won't get to see the benefit or tier information and also some plans may not even submit PDE data.

So who are they? Well, so there are two ways, actually there are three ways that employer can provide Part D coverage. So the first way is, which we call the employer direct contract. It's basically employer setting a Part D plan. So I mean University of Minnesota and I want to offer drug coverage for my employees or the employees and say, "Well, I'm going to set up my Part D plan." Then, if we want to set a plan, you have to make a contract with the CMS. Then CMS will assign you a contract ID, so that starts with E. But that's too much work. So we can see only 10 employers basically made the direct contract, right, and then get this number E, blah, blah, blah.
^M00:10:06 But, well, you know that there are [inaudible] and UnitedHealth plan out there, and why don't you go and ask? And then say that, "Could you create one policy or one plan that covers our employees, my employees only?" So this UnitedHealth already made a contract with the CMS and then they have this contract ID called 80000. And then they just simply add one plan ID XYZ. And this plan is only for the employees from University of Minnesota. All right, that's why--and then, this is easy to prepare [inaudible] where they--that actually shows up as one, but as you see here, their contract ID really starts with the H or S. So now you understand that this--

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[Inaudible Remark]
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Employer direct contract anymore, yeah, it's not employer direct contract. Or if you are familiar with any employer sponsor plan, have you heard about third party administrator? Yeah, they are simply processing 'cause of their health plan. I mean, University of Minnesota, their main business is not providing Part D plan, right? So it's just that they are playing a role as third party administrator.

So summary here, so EGWP captures all employer direct contract plans, but most of EGWPs are actually MA-PDs or PDPs. So you have to use this indicator if you want to exclude all employers [inaudible] the Part D plans. So you have to use--You cannot simply use only contract ID only. So use this variable if you want to exclude or--this employer's master plans. And why do you want the employer's master plans? Because some PDE data don't show up and you don't have any benefit information. And also, if you go for the Kaiser materials or any medical reports, always, they provide this table that shows a number of plans by PDP and MA-PD, and you--there is always a footnote under the table. And it says that this table exclude pays demo cost of employer's master plan or something. And the public use file, [inaudible] file, they do not include information on these files either. So when you get this Part D data plan file and then you want to create this table and you want to check against [inaudible] the medical reports, oh, they are different. What's wrong? You have to exclude this one. So in order to get the--You really make sure that whether you have the right number or not, you have to exclude all these plans and then you have to use this EGWP indicator. Well, not only that indicator, but there are demo indicator with, you know, special need of plan indicator also, right?

The cost plan is just a special--it's a type of HMO, but on the other hand that they are based--they are paid based on their own cost. HMOs are supposed to be get paid sort of a capitation just for beneficiary, but these special type of plans are paid based on cost even though it's an HMO. And the 1870 is the number of act I think, some--some [inaudible].

OK, now, this benefit information. So there is a variable called a drug benefit type and it has four values. First one is define the standards. Now, you know the standard benefit, OK? If you have deductible coinsurance coverage gap [inaudible] coverage, OK. Now, you're on a defined standard plan. And the second type is called actuarially equivalent plan which means that it's equal in value to the standard benefit package. So this plan has still defined deductibles, but then they didn't like coinsurance. So they changed it to the tiered copayment. So they modified this cost of sharing part once you pass this deductible phase. And but still your value is the same as your defined standard and it doesn't have a note--it doesn't have a gap--a coverage for the gap, right? And then another type is basic alternative and this type of a plan actually changes the deductibles also. So they reduce the deductible and/or they change the cost of sharing. So, most of the plans actually adapted a tiered copayment instead of deductible or a coinsurance. They knew that beneficiaries would like copayment instead of a deductible and coinsurance. But the CMS, specified CMS or the Medicare does specify standard of benefit package, but they allow plans to change their benefit schemes as long as their benefit schemes are equal in value to the standard of benefits. So, the--

>> Equal or better?
>> Equal. Better is here. OK, better--Yeah, better is here. So these are all equal, right. But for better case, they may charge additional premium, right. So in this case, they also--they reduce a deductible, but also, they provide coverage for the [inaudible]. So you can actually identify what kind of direct benefit that the beneficiary has or that each

plan provides.

So this is the summary table, summary--OK, so what--about 50 percent of PDPs offered enhanced plans, whereas 90 percent of MA-PDs provided enhanced plans. And you can see here, this define the standards actually account for only relatively small percentage and actually really covering the plans are really small in both types of plans.

OK, so--And also variable called the deductible type and they simply created a base on this benefit information whether this plan provides--define the standards or reduced deductible or zero deductible. Let's see. OK, about 60 percent of PDPs provided zero deductible and MA-PDs about 85 percent of plans provided zero deductibles. And then another variable is a gap coverage type and it gives you information about what types of drugs are covered in the gap if they offer a gap coverage, right. If they don't offer any gap coverage, simply, you have this with no gap coverage, right? But if you do offer coverage, some coverage equal to gap, then you can see here what type of drugs are covered in the gap. And most of the plans, if they--when they provide a coverage equal to gap, they provide either coverage for the oral generics or oral generics plus a little bit of brands, some brands. These are the most common type.

Again, PDP versus MA-PD, how many--what percentage of plans provided gap coverage? In PDP, about 30 percent of plans provided gap coverage and in MA-PD, about half of MA-PDs provided gap coverage, right. And then, also, we asked there in the benefit base file. OK, we haven't moved to a--We haven't moved yet, but it has a tier information. So you may not even actually go to the tier file, you'll still actually get some tier information from base file. And this--Here, you can actually get the table of drugs covered in each tier during pre-ICL, in other words, before you hit the donut hole, before you hit this coverage gap, and during the gap period, and what type of drugs were covered in each tier. And also, you can also get the copayment or coinsurance information for one month of a prescription drugs in each tier during these two types of period--to these two benefit pays period.

The variable is a little bit more--looks complicated, it's not. So, in order to get this tier information from base file, there are seven variables that tells you about the drug type. So it starts pre-ICL drug tier 01 and the second variable is pre-ICL drug type tier 02. So each number actually represents each tier. So the maximum number of tiers in the plan [inaudible] 7. So, some plans actually have--or most plans actually have a three-tier structure. So it probably ends in 3 and then you will get all the missing information for other variables. So these variables, the value actually looks like this. So these are six-digit number, right? And then there is each--in each position, the number is either zero or one. So in position one, if this is a one for tier 01 variable, that means that in tier 1, this plan covers non-preferred brand, right?

In this case, I just picked up the value that has the highest frequency, OK. Was it a--it was a 010000 for this tier 1. What does this mean? So in position two, if this is 1, it is generic. Ah, most of plans cover

generic drugs in tier 1. Can you see this? And then what's in the most frequent value for tier 2, 000001. In position six, ah, OK, most of the plans in tier 2, they cover preferred brand, right?
^M00:20:11 And in tier 3, the first portion is non-preferred brand. So it covers non-preferred brand, right? So this is the most common tier structure. So you can actually recover test director of each plan using this variable, right? OK, so this is one set of a variable, it's about tier.

And now, you can have cost of sharing information about each--on each tier. OK, now it starts with a pre-ICL IMP's in-network pharmacy. So pharmacy can be in-network or out--out of network, yeah. And I think, yeah, in-network or sometimes just mail order or sometimes nonpreferred pharmacy or sometimes preferred pharmacy. There are some several types. And then one M is one month, one month of prescription. And copay is copay. And if the plan doesn't have a copay structure but it has coinsurance, it should--there is another set of a variable called C-O-I-N-S, coinsurance. So for those plans, this variable will have missing values because copayment is not relevant for that plan, right? But the copay plans, they will have missing values for coinsurance variables.

So, and then again, there are seven variables, tier 01, 02, 03, and to 06, right? And for this, on the mean value for this, the tier 01 copayment variable was about 4 dollars. That's why I said, oh, usually copayment for generic drugs, its plan, it was 4 dollars. It's not really that precise because some plans do cover, let's just say brand in tier 1. It really varies across plans, but this is--this has a common thing. And then in tier 2, what was that--the common drug type in tier 2? Preferred brand, then average copayment for that is you can guess, oh, maybe around 30 dollars. And if it's nonpreferred brand, oh, it's expensive, it's about 64 dollars. It's a copayment, right? So OK, by using these two sets of variables on tier information, you can actually--get actually each plan's copayment for generic and branded drugs.

Oh, now, you could use this information if you are interested in looking at relationship between copayment amounts and the use of medications. OK, so I used this information. It's I think--OK, I played with these variable for a while and I actually used this one--actually, I did more actually in my end paper. I didn't use directory, this copayment, but just for the example for this workshop, I created a copayment for preferred branded drugs for each plan. And I wanted to look at that if the copayment for branded drugs is higher, would beneficiaries be less likely to fill prescription with a branded drug? So my [inaudible] under variable is here, binary indicator. This shows whether the prescription was filled with a branded drug or not. And actually--and then it was [inaudible] from plan characteristics file and I linked this PDE file and plan file and then to create these indicators too, whether it's [inaudible]. And also I controlled for other demographic factors from beneficiary summary file, et cetera. And it's on my MA-PD enrollees. Actually it does show--it does make sense, right? When premium goes up, then beneficiaries are less--will less likely to get prescription with our branded drugs. So this is one way you can utilize this information, these variables, right?

Oh, this one is HMO enrollees were less likely to fill the prescription with the branded drugs compared with--in your list in private, people services sector. And what about PPOs? It's a little bit surprising to me actually. The PPO enrollees were more likely to fill the prescription with the branded drugs than in your recent private people services sector controlling for all other things. It was a little bit surprising to me, but HMO makes sense.

And then next, that's a premium file. Ah, so it--premium files, yes, it has a premium information and each record represent contract plan and segment. Oh, what is a segment? Oh, segment is just geographic area covered by a particular benefit package. So here is a bit--so contract plan. Now, you understand the plan, right? So if you have the same plan ID, that means that you have the same benefit package, period. I mean the tier, the copayment, yeah, but premium maybe different depending on the area, county A and county B. So move to next neighbor county. Don't know--yeah, seriously, premium is different. That's why in the premium file, they give you for this plan that you are in depending on your segment ID, the premium may vary. Just a little bit--it sounds a little bit more complicated, but when I actually looked at data, less than 2 percent of MA-PDs actually have this segment ID. Well, it's more than one segment and it--this happens only for MA-PDs not for PDPs. And if you would really want to simply get the one over our, you know, premium information, just get average. It's not really--it's only two or three segments. And why is this happening? Because MA prints provide Part A and B services and they receive a separate payment for Part A and B from CMS and they can subsidize their premium debt payment to this one. And because Part A and B contributes based on county, the payment could differ even though you are in the same UnitedHealth [inaudible] plan, then it's 500, 600, and you may actually maybe able to lower your party plan depending on your county, that the county's payment.

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[Inaudible Remark]
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Yeah, basically segment is, yeah, usually, yeah. It doesn't have to, but it's usually, yeah.

OK, now premium file is really simple. It has the simplest ever premium of variables. And then there are three variables where there are actually for premiums for low income subsidy population or so which I didn't include, but your basic premium, supplemental premium, total premium. Total premium is just simply the sum of these two premiums, fine. But then this has some descriptive data, it says net of rebate. What does this mean? How many knows how Part D premium is determined? How Part D premium is determined? No one knows? Have you heard about bidding? Bidding system? No?
>> It's a black hole.
>> It's a black hole. Marshall said, right? Yeah. Marshall--OK.

So, think of it when government--think of a Part D. Part D is a--it's publicly funded, but privately delivered system. So this basically,

government pays it. Well, actually, your tax money because it's 75--around 75 percent of money comes from general revenue and then--but then Medicare ask the Part D to provide this service and what--then what does government do? They pay Part D plans.

And then now, the issue is how much do you pay? How do you know? You just [inaudible]--I mean, they made this law and then you have to now figure out how much you pay, how much you should pay for your government. They have no clue, right? So what they did is that they asked the Part D plans, could you sell me [inaudible] telling us this is the amount of debt my plan would cost to cover, to provide this benefit or package, right? So plan A said that, well, it's about 1,000. And plan B says I'm really efficient and I can actually, you know, cover that for 90 dollars. Plan C says 110 dollars. And then government actually get this national average, right? And national average so it's national average of 100 dollars. So out of this 100 by law about probably 75 percent of this cost that should be covered by general revenue. And 25 percent is usually comes from beneficiaries. So, beneficiary portion is base premium. It's different from basic premium that you see in the Part D data. It's not. It's base premium is simply by law, it's just a portion of national average [inaudible]. It changes every year. So let us say in 2012 it was let us say 30 dollars. So out of 100 national [inaudible], OK, now beneficiary base premium is 30 dollars, fine. But then what's my incentive to choose this 90 dollar plan? [Inaudible] chose plan that cost 110 dollars. I chose a plan that cost 90 dollars. What? What's my incentive? So I will actually get, that's actually in the second part, you, in your premium equation, plan B minus national average, right? So here it's in graph. National average is 100 dollars. And this plan A bid is 110 and it's 90 but there is a difference. And if he chooses this plan A, then he has to pay.
^M00:30:02 And if I choose this plan, efficient plan, then I get actually be not--it's not reimbursement but actually--yeah, my premium will be reduced. That's actually in--and he will pay 40 dollars. And I will pay 20 dollars I want.

And so, OK, right here--here it is. So that's actually the second part. OK. So beneficiary of--this is actually the mechanism to steer beneficiaries to relatively sort of a more efficient plan, right? So beneficiaries pay or receive the difference between her plans bid or--and benchmark. OK. So we understand that what we see in the--it is a plan characteristics file is sort of net of rebate. You can see only 20 dollars or 40 dollars, right? So that's what they meant by net of rebate. It was actually work against that is benchmark and then that's how we come up with.

But then in theory, it can be zero. When can this be zero? So if a [inaudible] plans bid was 70 dollars.
>> Exactly [inaudible].
>> Yeah, exactly to zero. And what if my plan bid of 50 dollars? My premium is? Negative 20. That's why it is a--and theoretically this could be negative. And it does have a [inaudible] negative values in 2008 Part D data for MA-PDs only too. No PDPs, OK. So some MA-PDs did actually have negative values for this basic premium, because when they really have a sort of [inaudible] we create overpayment from the government for Part A

and B. They were able to use the money to offer more, you know, lower premiums for Part D or it provide enhanced benefit. And supplemental premium is for the enhanced benefit and then you can actually get the current premium. So don't get surprised when you see negative values for premium, particularly for MA-PDs.

And this is just basic descriptive data. You can contrast it between PDP and MA-PD where MA-PDs, they have a better benefit package, more generous benefits and their premiums are still lower than PDPs, right? Or you can actually, you can see it in a--across these different benefit types. And these are very reasonable gap coverage, yes, about the premium is over 60 dollars. If you don't have a good coverage, it's about 30 dollars, right?

OK, let's move to the tier file. So, here tier file record represent contract plan tier. So now in the base file, you saw these seven variables for drug information in each tier, right? Tier 01 through tier 07. But now, this tier becomes just 1/9. So contract ID and plan ID 01, 02, 03 and equals to 07. So then variable name will be simpler, right? There is no tier zero number here. So it simply says plan I see probably drug type. And in the base file, you can get information only on the pre-ICL and gap. But in tier file, you have--you can have information on post or PT's out of pocket post--out of a pocket threshold. In other words, once you hit the catastrophic coverage. So there is a little variation in the benefit in the catastrophic coverage phase. But some plans actually say that you pay five--you pay five percent for insurance or some plan said, well, it's 2 dollars of copayment for generic drugs or 6 dollars of copayment for branded drugs in the catastrophic coverage. So [inaudible] provide plans, so they have this cost sharing information at this threshold. And then for data supply, you can have also--you also can never--one month, three month. And I think it's simply other days. They didn't actually divide them further. Simply they said other days. And type of pharmacy, in-network [inaudible] they were preferred or nonpreferred. And still in this case, depending on whether the plan offers copayment or coinsurance, you will get only relevant information so you will find lots of observations has actually missing information, missing values here.

Service area file, now you can identify all the services areas, you know, that each plan on servers, OK. So in this case, the one record represents contract plan and service area. So for local MA-PD's or local Medicare organizations, their sort of the unit of service area is county. So if it's MA-PD you can see 80000 XXX and then county A, B, C and D. And of course you can have a state information also. So it's MA-PDs are listed by state and county. And regional MA-PD basically it's the PPOs and it's by region. If it's--regional PPOs starts with--what's R? 0000, and region. Region is usually greater than--it could be one state or it could include multiple states. And in PDPs and you can--these PDP plans are listed by PDP region and state. PDP region and this regional, they are different. I think they are not the same. The regional PDPs, it has its own regional--regional definition. And PDPs, they have their regions and definition.

All right, so let's summarize our--this section by looking at--or how do

we want to use now this plan characteristics file. So you can use simply plan characteristics file alone without linking this point to any other files. And you can look at how many Part D plans are available to beneficiaries. And if you are interested only in Minnesota, only in Texas, you can do that. You can select the state and there's 1 percent--what Part D plans of the coverage which we already saw, and whether premiums differ by plan type or benefit package. I showed some descriptive data, and also [inaudible] differences in plan availability and also premium 'cause is there any variation across state, all right. And so, if you link this file to a beneficiary summary file, now you get already demographic information about enrollees and you can actually see what type of enrollees goes to what particular type of plan they go, OK.

And here again, I wanted to emphasize here the identifiers. And in your note, please change this plan to base because for base files and tier files, you have to use these two indicator IDs. If it is--base file used to be called the plan file but now they changed benefit base file. But that's a little--all the slide, so there is type change this to base. So, if you are interested in using only base file and tier files, you have to use contract and plan IDs to link these files to beneficiary summary file. You put your interest in a premium and service area, you have to use three IDs, contract and plan segment IDs. And now you can also link this file to a PDE data and to look at medication utilization or cost by plan type or benefit phase or anything that you can do with a PDE data.

Again here, one note here is that you may want to aggregate the PDE data to a patient [inaudible], depending what you're interested in, all right. And particularly the medical adherence, the MPR type that's actually beneficiary level, you have to aggregate. And identifiers here for again base file, it's not plan file in your note. Base file premium and service area files, you use contract and plan IDs and for tier files you use contract and plan and tier IDs. All right, and this is shown actually in this diagram. All right. And we will add this formulary file to this diagram next time.