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Unidentified Female: Hello everyone and welcome to today’s \_\_\_\_\_ [00:00:03] Health Economic Cyber Seminar. We are excited to have Doctor Austin Frakt the health economist at the Boston VA with us today where he is co-PI of the Partner Evidence-Based Policy Resource Center or PEPReC. Doctor Frakt is also an associated professor related with Boston University School of Medicine and Public Health, a visiting associate professor at Harvard School of Public Health, a fellow at \_\_\_\_\_ [00:00:27] School and an Adjunct senior fellow at the University of Pennsylvania. His research interest includes the interaction between economics and healthcare policy and Medicare in the VA with a focus on patient choice, insurer decision making and their relationship to health and market outcomes as well as comparative and cost effectiveness analyses.

So Doctor Frakt’s research has been funded by the VA as well as Robert Wood Johnson Foundation, Commonwealth fund and AHRQ and he is widely published in the New England Journal of Medicine, JAMA, Health Affairs and Health Economics. When he is not busy doing all of that he is running an evidence based health policy blog called The Incidental Economist. So today Doctor Frakt will be talking a bit about PEPReC and the role that PEPReC is playing in analyses of substance use disorder and mental health performance measures and his talk will summarize work on how increased funding for substance use in the 2000s was related to access and how satisfaction and access are related to program characteristic. So without further delay I would like to hand it over to Doctor Frakt who will tell you a bit more about this research.

Doctor Frakt: Great. Thank you. I assume I can be heard so I will just keep talking. As was just mentioned, I am going to cover some research both on mental health and substance use disorder both research that is ongoing and unpublished at the moment and some work that has already been published. I am going to do this in the context…I am going to start with sort of the broader context of where I am in the VA and what this group PEPReC is doing and is all about kind of intimately related to our efforts to do operations partner investigation which all the work I am going to present today is a part of.

On the research that I am going to talk about, I have had several collaborators. Steven Pizer who joins me in PEPReC. Jody Trafton who is with PERC and OMHO that the Program Evaluation and Resource Center. Pat Newman is also with PERC and Amy Wallace who is with the VA North Texas Healthcare system. In different ways on different aspects of the research I am going to present I have had support from HSR&D most prominently though a \_\_\_\_\_ [00:02:46] that was led by Keith Humphries. PERC has itself provided some financial support but also in kind of contributions with data resources and processing a little bit. Query is the principle…provides the foundation for PEPReC and I will talk more about that in a moment and HSR&D is also going to be involved in funding PEPReC going forward. I will also talk about that a bit.

This is the outline of what I am going to do today on this call. First I am going to talk about PEPReC or the Partner Evidence-Based Policy Resource Center and then I am going to talk about some different aspects of work we have done with OMHO. The first part, the impact dedicated substance use disorder funding is work that has been published in two different places that is indicted there in the sort of sub-bullets. Dedicated substance use disorder funding what I mean by that, it is funding that the VA provided that was sort of earmarked for substance use disorder treatment as distinct from the general allocation that medical centers receive each year. So we looked at questions of whether this funding kind of stuck meaning did it actually make a contribution to increasing provision of care for substance use disorder and then what was the impact of that funding on access and intensity for substance use disorder treatment. Answering the question did the VHA keep pace with growing demand when those funds were pushed out.

After doing that I am going to turn to the more recent work that is yet to be published that is on validating mental health program characteristics with satisfaction measures. Program characteristics well, there are lots of program characteristics. In fact, when we get to them you will see I have about 29 program characteristics that I am going to discuss and those are going to be broken into four different groups. Program reach, psychosocial service access, program intensity and treatment continuity and we are going to relate measures new to those areas to satisfaction and kind of investigate positive and negative correlation and see if we can draw some conclusions from what we are finding. Then I will talk a little bit about the future or OMHO and PEPReC collaborations. There is a couple of areas that are listed there that will more about where we are going to be ramping up or collaboration going forward. Heidi, do you want to do the poll question or should I read it?

Heidi: If you can read it I will get it up on everyone’s screen.

Doctor Frakt: Okay. So I am curious to know how familiar you are with the Partnered Evidence-Based Policy Resource Center or PEPReC. Your choices are A, I have never heard of it. B, I have heard of it but I do not know what it does. Or C, I have heard of it and I know what it does. I am going to make a guess that few have heard of it and know what it does because it is relatively new.

Heidi: So we will give everyone just a few moments to respond to the poll question. Responses are coming in nicely. I just want to give…few of you have not responded a chance to respond here. It looks like we have stopped so we will go through the results. We are seeing 72 percent saying they have never heard of it, 26 percent have heard of it but does not know what it does and 2 percent have heard of it and know what it does. Thank you everyone.

Doctor Frakt: Well, you might have noticed that I have designed this poll and hypothesis about it so that was perfectly hedged. If everyone had heard of it or at least whether they knew what it did or not, I can be happy because you have heard of the center that I am a co-PI of. But now I am happy because so few have heard of it that my hypothesis is confirmed so I seem to know what I am talking about at least with respect to that issue. So let me tell you about PEPReC. It is a new HSR&D and Query funded resource center. The overriding concept is to apply research techniques and research…investigation to operate operations questions of high priority and interest. We want to provide timely and rigorous analysis of data. In particular, PEPReC, my collaborators within PEPReC are highly skilled at analyzing administrative data. We tend to do observational studies so PEPReC will focus on that and I will get to a little bit later through some other collaborations we will bring in other ways of looking at programs and data but I will get to that in a moment.

We are going to be supporting the development of high priority policy planning and management initiatives and we plan quantitative program evaluations with randomized design. That is a big effort that I will talk a little bit more about in a moment. So we have two core missions. One is to collaborate with the operations partners to accurately forecast the demand of VA care and I should say within this core mission are things that we have been doing for quite a while even proceeding when PEPReC started. Officially PEPReC start date was last October but many of these things in the core mission are things that those of us in PEPReC have been doing for months to years ahead of that time. So forecasting the demand for VA care is something we have been doing for a while.

Thinking about how to efficiently deploy resources where they are most needed whether it is in mental health or in other areas is something we have been doing. Performance monitoring with a lot of emphasis on access to care. So my co-PI Julia Prentice and Steve Pizer both have done a lot of work in the VA on access to care and waiting times. Then thinking about the decisions about major new investments. This goes hand in hand with deployment or resources efficiently. Our second core mission is really what PEPReC has been doing since October which is to collaborate with operations partners in particular to develop randomized designs for program evaluations. We are doing that in four areas that I will talk about in a moment. As I mentioned, Julia Prentice is my co-PI in PEPReC and Steve Pizer is the Chief economist. But we have numerous other collaborators that are not mentioned here.

Some of you may have noticed that a month or so again HSR&D put out a request for concept papers for…well, request for concept papers in four areas. I am blanking on the term. Well, these are not IARs they are the other thing. The things you do with operation but I am blanking on the…service directed research. There you go. For service directed resource concept papers and they were in four areas. Access and clinic administration…I am getting ahead of myself I apologize. This slide is about our current activities not our forthcoming ones. So backing up I am talking more about core mission one right now. Sorry. This is about core mission one. So we have been working with access clinic administration program on waiting time issues and metrics pertaining to that. We have been working with the office of policy and planning for quite a while on determinance of VA care and this gets into the area of projecting VA demand and budgeting issues. We have been working with office mental health operations for quite a while both on the \_\_\_\_\_ [00:10:51] that I mentioned earlier and that leads right into a lot of the work I will talk about today. We have started working in the last year with the office of informatics analytics pertaining to issues around just the evolution and metrics associated with that.

There is a good reason I was blanking on the term for this because it was not right up on my screen so I was on the wrong issues. So this is core mission two are the randomized program evaluations to be supported by HSR&D and you may have seen call for concept papers for this. They are in four areas. There will be four randomized initiatives with program evaluations and funding behind them going forward starting very soon. I will get into the timeline for that. They are in four areas. One is the veteran directed home and community based services. This is the office of geriatrics and extended care. The next two are with OMHO. One pertains to targeting high risk patients who receive VA opioid prescriptions trying to target those who would be at high risk for adverse events and mitigating those risks. The other focuses on suicide. So again, it is a targeting tool to try to identify VA patients how are at high risk for suicide and intervene to try to reduce those chances. The last one is on teledermatology within the VA and that is with the office of connected care.

For those four program evaluations, PEPReC is designing three year randomized evaluations with operations partners. We will be constructing metrics and performing quantitative analysis from administrative data throughout the evaluations and there was a call for concept papers issued February 3rd so over a month ago. Just a list of applications from potential research partners. The idea behind those is to find partners within the VA, research partners who could compliment what PEPReC is already doing or already planning to do.

So these would be areas of more mixed method analysis or qualitative analysis. They could draw on primary data so they could be surveys or even focus groups or whatever they want to propose but point being not really focusing exclusively on administrative data because that is the area that PEPReC is going to focus on. Those concept papers were due March 8th and planning awards will be made later in March so those decisions have not come out yet. Each of those areas will have one partner selected and the planning of the grants are 300,000 dollars and then going forward for the next three years will be funded at 250,000 dollars. The selected applicants will submit full protocols to \_\_\_\_\_ [00:13:59] for either of the June or December cycles. It will probably be two of each across the four programs. Two of them will start in June and two of them will start for submittance.

This is the list of review panel members for PEPReC. I want to emphasize this is not the list of review panel members for the concept papers. So I am moving away from the concept papers at the moment. This is just how helps guide PEPReC and this group had a review panel called in January. We will have them twice a year possibly in person if we can pull it off. We draw from many of the operations partners we have worked with in the past to provide guidance on priorities in operational areas and then the senior staff listed on the right. That was the introduction to PEPReC, now I am going to move into presentation of data that has been published or research that has been published that provides the background to some of the work that we have been doing in the validation are. I should say there is a little bit of a disconnect because the work I am going to talk about now is focuses on substance use disorder and then when I shift later I am going to be talking about mental health more generally, but nevertheless, there is some continuity across the work.

There are two papers in this area and they both rely on the same basic phenomenon that occurred in the 2000s which is that the VA dedicated a substantial amount of funding about 150 million dollars centrally administered dedicated to substance use disorder treatment in addition to the general allocation that facilities receive. In these two papers we asked two questions and the first paper we asked the question did it stick. What we mean is, was the funding actually used for the purposes it was designed. Then the second one is, with that funding was it enough for the VA to keep up with the growing demand for substance use disorder treatment. So in the 2000s VA enrollment was growing.

The number of unique patients increased over the decade. That is shown on the chart. With that, substance use disorder diagnosed patients also grew. So in the second half of the decade it grew 42 percent from 310,000 from 2005 to 439,000 in 2010. \_\_\_\_\_ [00:16:43] intensive treatment delivery also grew about 41 percent. In this period to respond to the growing demand the VA dedicated some additional funds for substance use disorder treatment through a number of vehicles. Those are indicated on this chart when they occurred. In total across the decade it was about 150 million dollars. It was really concentrated in the second half of the decade but a little bit kind of occurred in 2002 as the no bill funding kind of ramped down. These funds were generally dedicated to hiring additional substance use disorder treatment staff and that is shown on this slide here. It is a bit of a busy chart so I will hang on this slide for a while and let you absorb it and talk through it.

What this chart shows is that across the decade staff grew broadly, so that is the right hand axis the FTEs. There is a little bit of a decrease from 2000-2001 but then a consistent increase in substance use disorder treatment staff through 2010. If you look at this carefully for long enough and recognize the structure of it, it shows that actually the staff increases were predominantly focused on higher credential staff. So I have got the bars here grouped into four colors and from bottom to top you go…goes in increasing order of credential. So support staff are down at the bottom. That is green. Non-graduate counselors are purple and then blue is graduate counselors and orange is medical management professional. It is mostly the top two that grew over the decade with the others shrinking at least in proportion and that is the left hand axis.

The question is, is this due to the dedicated funding. We have got an interest in increasing staff funding to do so dedicated for this purpose. One would like to just conclude that yes, this is clearly the result of that funding. But we have to keep in mind that unrestricted funding was also increasing over this time. One concern we might have is that a station that received unrestricted general allocation funding in a certain amount could take also some dedicated funding and then offset that by withdrawing some general funding. So a medical center director or medical center could for example say oh well, now that we have some additional substance use disorder treatment funding thank you very much. It is dedicated for that. I should be using it for that. I will withdraw some or maybe all of what I would have otherwise spent on that and go spend it on something else. If that is the case, then we cannot really pin this increase on the dedicated funding. Maybe it just happened for other reason. The dedicated funding really in some places may not have really contributed to increasing staff.

That is what we want to get at and there is actually a technical term for this, it is the fly paper effect which has been studied before. So the fly paper effect is really the idea of do the funds that you dedicated to something stick where hit or stick where they are targeted? Or with the fundability of money do managers just withdraw more flexible funds and use those elsewhere. So in a sense when you spend a dollar that you are trying to dedicate to something you do not really get a dollar of increase in \_\_\_\_\_ [00:20:40] in return. So our analysis looks at the changes in workforce as a function in substance use disorder treatment workload. I am sorry. Changes in workload as a function of the dedicated funding but controlling for general allocation and this chart shows the results. It shows the proportion of the dedicated funds that were actually used to increase substance use disorder treatment workload. This should be a number no bigger than one and if you get a value of one it means that every dollar dedicated to that was actually used for it. That would be the highest amount of stickiness you could get.

Prior work in the 80s and 90s not on the VA but on community clinics found very large fly paper effects. They were like 80 percent or higher. We did not find fly paper effects that large. In fact, through 2008 we cannot rule out the possibility that they were zero. That is shown here. All the arrow bars across zero through 2008. In 2009-2010 the story is different. There we have a possible fly paper effect. In 2010 it is as high as about 60 percent or so. I think it is 63 percent if I remember correctly. The key discussion in the paper that is indicated in the last bullet here is why do we see these changing effects over time. Well, one possibility or poaching effects…the idea I just talked about before money is \_\_\_\_\_ [00:22:27] perhaps with a dollar and dedicated funding provided to a facility, another dollar of general funding was removed and used elsewhere. Now I want to say we should not necessarily think that is a bad thing. It could be because of local knowledge and understanding of resources and needs. That expanded treatment perhaps not in substance use disorder but maybe in other areas like mental health in perfectly reasonable ways that we might agree are appropriate and fine. Now we do not know but I want to be careful. I do not want to be saying…I am not saying that this effect is necessarily bad for patients. But it is not the intention of the centrally administered program.

Another reason why \_\_\_\_\_ [00:23:25] poaching effects diminished over this time period and the reason why that might be the case is that, as these different programs rolled out they were increasingly focused not just on substance use disorder but on broader mental health. So for example, maybe in the earlier years some of the dedicated funds were effectively used in other areas of mental health but later the need for doing that perhaps was not as great because mental health was receiving more funding anyway. These are all hypotheses discussion; I do not really know the answer. Another factor is that in the later years there was more monitoring of these funds and how they were used and perhaps that had an effect of causing them to be more sticky where they were targeted. So the main takeaways here from this work is that in the 2000s demand was going up for substance use disorder treatment, funding was going up, staff and workload were going up particularly end of the decade. By the end of the decade 2009-2010, these seem to all connect together. So the funding really was responsible for some of the increase in workload and staffing.

Now I am switching gears to the next paper and it draws on some of the same concepts and data as the one I just discussed. So again, it focuses on this period of growing demand in the 2000s, growing demand for substance use disorder treatment and we already showed that there were some mandated expansions that became increasingly effective over time. But we might worry that those expansions were not as effective as they might be because of other limitations like quality or amount of space for support that they received and in some cases resources might have been diverted so they were not that effective in some years and other years they were. So this paper asks the question how did dedicated funding affect access and intensity. So this is just…not focuses on workload we have already done that, but what did it do for the types of care the patients were receiving. Mainly we are trying to ask was dedicated funding enough to keep pace with the increasing demand. Did access suffer? Did intensity suffer or get better?

We examined the relationship between dedicated funding and access intensity over the second part of that decade 2005 to 2010. We focused there because that is where most of the funding was…the dedicated funding was hitting. That is where we saw most of the staffing increase particularly the more highly credentialed staff and that is where the funding…at least for the end of the decade that is where the funding stuck. So we did not look at the first part of the decade in this analysis. We used that access and intensity measure from mental health information system dashboard, MHIS. We used their definitions. We actually back coded them so they were consistent for every year. We did not just draw from MHIS because there were some coding changes over time so we made sure they were consistent.

These are the measures we looked at. There are six of them. So these are…variables for this analysis. The proportion of patients diagnosed with a substance use disorder. The proportion of said diagnosed patients receiving specialty treatment, the proportion receiving intensive residential treatment, then receiving intensive outpatient treatment. Then two that are average number of weeks of residential treatment or outpatient treatment among those receiving any. So these are six different dependent variables. They key independent variable is dedicated funding just like in the prior analysis and just like the prior analysis we controlled for general allocation. So this slide summarizes our results. I will get to the table in a moment but I want to make some general comments first. We looked at results by year. They are not shown here. They were consistent with the fly paper findings namely; I think it was all but one statistically significant result. We are in 2009-2010. That is exactly the time when the dedicated funding stuck and all of our results were consistent with the idea that the dedicated funding was associated with increases in access and intensity. So the VA was able to keep up with demand because of the dedicated funding. But a necessary condition is that it only worked where the funding stuck so in the later part of the decade.

The table at the top illustrates one year of our findings, it is 2010 and it is a simulation. I can show you coefficients but I thought this was a little bit more informative. So this table uses the model of coefficients and it looks at the percent change in performance, these six different measures for 50 percent increase in average dedicated funding. That is a big increase in dedicated funding but it is actually not that big of an increase overall treatment funding when you account for the general allocation. It is about three percent of total substance use disorder treatment funding or 74,000 dollars per medical center per year. So that amount of increase in funding translates to and I am just going to look at the specifically significant coefficients here, a 1.38 percent increase in the percent receiving specialty treatment. A 1.57 percent increase in percent receiving intensive residential treatment. Almost five percent in percent intensive outpatient and increases by a little over three percent in the average weeks of intensive outpatient treatment. That is all published in \_\_\_\_\_ [00:30:04] in the bullets at the bottom of the slide.

Now I am going to move on to work we have done more recently not yet published and this is validating mental health program characteristics with satisfaction measures. I have to remind myself to go slowly through this because we have a lot of measures here. So there are four…in the program characteristics that we looked at and they are listed here. I went through them before and we will see them several times again. There are 29 measures across these four domains so five or more per domain. For each one of them we estimated the correlation it has with each of six different satisfaction measures. Those were risk adjusted correlations so we adjusted for demographics and comorbidities. I will go through all of this again so you do not have to…if I am going too fast you will hear it again. But I just want to point out that in total I think it works out to 170 something odd different analyses and I have a bunch of tables that summarize those that hopefully will be clear to everyone.

Our motivation in this work is that, individual satisfaction is costly to measure in real-time. You have to do surveys. In fact, our satisfaction measures come from a survey, a SHEP survey. Surveys to get enough precision are costly and you need to do them with fairly high frequency to reflect changes in time. But already OMHO measures other aspects of mental healthcare regularly with administrative data. So our question is, to what extend at the facility level administrative database program characteristics predict individual level satisfaction. We think that is an interesting question because…for two reasons. One if you want to maybe not measure satisfaction as rapidly because it is costly to do, if you know to good extent what effects satisfaction you can look at those sort of proxy measures in a way. If you are doing well on those and you periodically do measure satisfaction and you see these correlations that I will get to, you can infer that you are moving satisfaction in the right direction.

Another reason to do it is that facilities cannot directly affect satisfaction. You cannot kind of reach into a person and just make them happier. The facilities can only change how they deliver the care they do. So what is it about the care delivery that needs to change to cause patients to be more satisfied? It is also important to know what aspects of care that are clinically important are not related to satisfaction. This is important because if we notice that satisfaction has gone down when we moved one of these clinically important aspects of care, we should not be necessarily concerned about that. We do want satisfaction to go up but satisfaction is not the only dimension of quality and if there is something about…some aspect of care that by policy, by convention, by culture, whatever we think is worth doing for another reason happens not to make patients satisfied we might be comfortable with that. So we need to know about that at a very minimum. Maybe we will not be comfortable with it but we should not necessarily expect everything about care increases in satisfaction.

Just as an example, perhaps it is the case that patients do not really enjoy being asked about their smoking habits, their alcohol use, their drug use, their nutrition habits, talking about obesity. There are lots of things about care, good care that might be uncomfortable for patients. They might not like it. But there may be things that the VA should be doing anyway arguably. So we should know when those do not correlate to satisfaction and decide on other grounds whether we should be doing more or less. So we combined six patient level satisfaction measures with 29 mental health program characteristics. The program characteristics came from MHIS and cell report. That is not quite right. What we did was, they were kind of predecessors to measures that ended up on the cell report because the cell report was not around in the year that we are looking at here which is 2013. But basically, everything we looked at ended up in highly visible reporting, mental health reporting vehicles.

The satisfaction measures come from the survey of health experience of the patients, the SHEP survey. Our analysis control for demographics and comorbidities and doing so we assessed the correlation between each performance metric and satisfaction in 2013. The SHEP survey solicits responses from VA patients who had a recent visit to the VA. Not necessarily a mental health visit. We wanted to focus on mental health because we are looking at mental health program characteristics. So what we did was we looked at the quarter year in which the SHEP interview occurred and only took patients that had a mental health visit in that quarter year. My hypothesis being that it is that visit that would be most salient to the patient and they are most likely responding about satisfaction with regard to their mental healthcare. That is a limitation we do not the extent to which that hypothesis is accurate but that is what we did.

We have a sample of 6,999 patients across all VHA facilities. Due to item non-response we did not have complete satisfaction data for all patients. On some subsequent slide I have the range of responses. But every response had several thousand at least. This is a description of the sample on just some selected characteristics. We do have and adjusted for \_\_\_\_\_ [00:36:51] Elixhauser comorbidities but this just shows some of them. I chose age, marital status, gender, one aspect of race. The thing I want to focus in on is alcohol use disorder and drug use disorder they are fairly high as are other aspects of other mental health diagnoses, psychosis, depression, hypertension. That is all as it should be really based on sample selection. It is reflecting patients who had a mental health visit and diabetes and obesity are fairly high in this population reflecting the fact that increased prevalence of these and other health conditions among substance use disorder and mental health patients.

I want to talk about the satisfaction measures for a minute. There are six of them which is not too overwhelming but we thought we could organize them a little bit to help organize our thinking about them. So it turns out the ones we looked at were followed prior work by Prentice at both at the top there of the citation. Looking at those, they break out into two different types. The satisfaction, one we called access satisfaction. These are things like did you get care? Needed care right way? Did you often get your appointment as soon as you needed it? Did you find it easy to get care? These are all about access. We dichotomized all those responses and those are responses to those where always usually…sometimes whenever we dichotomize those into one or zero always or usually gets a one, sometimes or never gets a zero. It is that binary variable that we are going to use. So we are collapsing a lot of details down into just the binary variable that \_\_\_\_\_ [00:38:43] with another limitation but that is what we have done here.

Then the other three we looked at…we called encounter satisfaction. It is about how satisfied the respondent is with the actual experience of care they received apart from the access part. Once they were in how did they like the care. So these are things like rate your VHA healthcare in the last 12 months. Rate your VHA doctor or nurse. Rate your overall experience of recent visits. These are on variously 0 to 7 or 0 to 10 point scales. We took the top two most satisfied categories and give that a one and our binary variable on the category we gave it a zero.

So one in all cases means most satisfied whether with access or encounter. This shows mean values of the binary variables across our sample. As I said before, our sample size for these varies depending on item response in the survey. A low of 3,546 to a high of 6,990. Depends on measure. I do not remember which was high which was low. That is in the details of our manuscript but I do not have it in my mind. I have shown here the access satisfaction measures on the left have higher values than the encounter ones but that could be an artifact of dichotomization. We had a choice about what we…how we dichotomized these and that could change if we change how we did that.

That is the access measures. Now I have got to talk about the program characteristics. A little rattling on the line. I do not think it is coming from me. So there are four domains, so one is program reach. For example, a proportion of patients receiving mental healthcare. The next one is psychosocial service access. This is proportion of patients initiating psychosocial treatment or psychotherapy. The third is program intensity like number of encounters per year. The fourth is treatment continuity proportion of discharged patients with follow up within seven days for example. Within each domain we examined five or more measures with a total of 29 measures.

These are just some means from some selected program characteristics within each domain. Out of 29 different measures I am just showing 8 here. I think in the interest of time I am not going to talk through all of these but let’s just look at treatment continuity at the bottom. So for example, percent of SMI patients with eight psychotherapy or psychosocial treatment visits in 14 weeks, 8 percent in our sample. Now these are program characteristics so these are all at the facility level. These are not the patient level or our satisfaction measures are at the patient level so we are going to be looking at how those satisfaction measures correlate to the facility level program characteristics. That is why we call them program characteristics because it is more about the program, not necessarily about the individual patient.

Controlling for demographics and comorbidities we assess the correlation between performance metrics and satisfaction. Actually that is a typo. Performance metrics here, I meant program characteristics. The charts that follow report the number of statistically significant positive and negative coefficients within access and encounter satisfaction domains. So there are three measures in each of those two domains. This will be a little bit clearer I think on the next slide when you see the first chart. Then we grouped the results by program characteristic and there are four domains. So there are a lot of results. There are 174 results and the first group looked like this. So this is looking at the program reach domain, a set of program characteristics and then those are listed here as rows. The two columns on the right, there is an access satisfaction column, there is an encounter satisfaction column.

What we did is we took each of these program characteristics, correlated them with each of the satisfaction and encounter…access and encounter satisfaction measures…remember there are six of those. Three in each category. All this chart shows is the number that are positively correlated and the number that are negatively correlated. So for example, the first row there the percent of veteran service connect for mental health condition…first row. Under access satisfaction two out of the three measures were positively correlated, none were negatively correlated and statistically significant. I am always counting the statistically significant ones. That is why they do not add to there and some of them are zero. So that is all the charts that follow. There is going to be three more of these because there are four domains. They all look like this. I am taking a little extra time to let this soak in. I am not going to talk through all of the results that is just way too much, but I want to focus on a couple of things. One conclusion we can draw is that broad measures of program reach are positively associated with satisfaction. So these top two measures are fairly broad and they are positively associated with both kinds of satisfaction.

The other thing that we noticed is that sicker patients report less satisfaction. This is actually consistent with prior work. It may reflect their condition and not the care they received. It is possible that certain types of patients initiating certain kinds of treatment tend to be less satisfied because their condition is making them less satisfied. It is not really the care. This becomes a little more convincing as you see some of the other results. So this is an example where you might need to justify the characteristic, the program characteristic on other grounds. So the last one for example, percent SMI patients that received mental health intensive case management for psychosis but the last row. Case management has been shown by other work to improve clinical outcomes. That is something one might reasonably think the VA should be doing even though it is negatively correlated with three satisfaction…access satisfaction measures. That is why it is important to know how satisfaction measures are related to different program characteristics.

This is another domain, psychosocial service access. Get to that in a minute. So this is the category with the fewest statistically significant associations between program characteristics and satisfaction measures. Perhaps that is because some of these groups are small and so the analyses are underpowered. We also see some negative associations and that could reflect again the condition at initiation this could reflect the nature of the patients and not the nature of the care. It is possible that seeing more patients so facilities that have higher values of these facility characteristics because they are seeing more patients, that increases competition for visits which could increase…could decrease satisfaction particular access satisfaction.

This is program intensity. In all but one case the associations are positive or not statistically significant. I want to focus on the top two here. The first row is number of mental health encounters per VHA patient. That is a very shall we say not well targeted program characteristic because it is per VHA patient. There are many VHA patients who do not need mental healthcare and this measure could go down if you have more such patients and that does not reflect a problem with the program. The mental health program is not designed to serve patients who do not need mental healthcare. So the fact that this has no relationship with satisfaction could mean it is just not a well targeted measure. The one just below it, number or mental health encounters per patient with any. Well, presumably any patient with a mental health encounter for the most part is a patient that needs mental healthcare. So this is a version of program intensity that is much more targeted and we see that it is highly correlated…positively correlated with satisfaction. Both access and encounters satisfaction.

In many cases––and here I have just circled two them––we get kind of similar results. It is very likely that there is correlation across measures if a patient is satisfied in one respect they are probably satisfied in another in many cases and the same is true with program characteristics. A program that maybe performs well by one measure performs well by another. So these are not all independent measures. That is actually useful when you consider incentives. So for example, if the VA were it incentivize one of these program characteristics say with some kind of management bonus or any other way, one might start to worry about gaming or targeting that one measure for improvement and not performing as well elsewhere. Well, if you have got measures that are correlated but you only incentivize one and not another, you can monitor all of them. When you see that happening that incentivized metric starts to deviate. That is a signal that maybe it is the incentive is kind of skewing or over skewing the kind of care you want to see.

This is the last domain treatment continuity. This is the big winner. Across all domains continuity is the most strongly associated with satisfaction. With a few exceptions all of these measures and again, my apologies I am not going to read them through because we will just run out of time. But all of these measures except for a few are positively associated with satisfaction. There is one…let’s see. I do not know if you can see my mouse moving but I will…kind of in the middle. Percent with mental health outpatient visit in a year who went six months without a second visit. Now that is negatively associated with satisfaction but it is still the same style as the other ones. It is because of the measure here it is going without a second visit not having many visit follow ups. So even that one even though it looks like it is negative it is actually again, making the same point that continuity is strongly associated with satisfaction. So this is a big lesson in this analysis is that continuity is really important for satisfaction.

What we have found is that access satisfaction is greater than encounter satisfaction broadly. Broad measures of program reach and intensity are positively associated with both kinds of satisfaction and more so than those focused on narrow populations. This could reflect the condition when you focus in on narrow conditions of sicker patients, certain kinds of sicker patients. They just could be less satisfied at certain moments of their care like initiation. It could reflect small sample size that we are just not seeing results that we would if we had a larger sample. No measure of access to psychosocial services and nearly all measures of continuity are positively associated with both kinds of satisfaction. We should not conclude that psychosocial services are not viable. It is important to know that they may not…providing more of those may not show up as greater satisfaction so you should be providing them for another reason. Efforts to expand them may reduce satisfaction measures possibly. On the continuity one, causality could run both ways. So more satisfied patients could have better follow up with care and therefore greater continuity. So that is something to keep in mind. I think I have talked through these other ones so I will just move on.

Unidentified Female: One quick question about that last study. Somebody was asking whether patient satisfaction measures were accessible in corporate data warehouse?

Doctor Frakt: That is a good question. I do not know. We got this SHEP survey…I apologize. I do not know. I work with analyst and programmers and I think Julia Prentice my colleague go the SHEP survey data and I used it. I do not know broadly how it is made available.

Unidentified Female: Oh, somebody else just commented and said that, they believe it is through a data use agreement with the SHEP group.

Doctor Frakt: That makes sense to me.

Unidentified Female: And one further comment was an idea about how to tease apart dissatisfaction with conditions to severity might be to restrict analyses only to patients representing or presenting for treatment without prior VA mental health treatment experience.

Doctor Frakt: Yes. So remember we focused on patients that had mental health treatment in the same quarter as the SHEP interview. There is a lot more you can do with that with targeting and robust testing that would just take more work with the administrative data to kind of tease out different subsamples. But absolutely that could be done. So I want to wrap up here. Kind of moving away from the research and looking forward that forthcoming are a couple of OMHO PEPReC collaborations and these are part of the HSR&D funded STRs that I talked about earlier. One is going to be on opioids and one is going to be on suicide and I have a couple of slides here that kind of just goes through those.

These are my last two slides so do not worry the end is near. I Just want folks to know about future work we will be doing kind of in partnership with OMHO. So the stratification tool for opioid risk mitigation or STORM estimates risk of adverse behavioral outcomes, overdoses and in \_\_\_\_\_ [00:53:16] patients who receive VA opioid prescriptions. The concept here…again, these are all going to be randomized evaluations. We are going to randomize this STORM tool…well, the STORM tool will be available everywhere when it is ready. It is not ready. Then we hope that facilities will be randomized to three states at least initially. STORM availability alone, STORM plus a process for review and management of very high risk patients. In STORM plus process for review and management of very high anti-risk patients. So \_\_\_\_\_ [00:53:49] almost like looking for a dose response there. The outcomes would be suicide related events, overdoses and accidents. PEPReC is working with OMHO to support the development process for policy to accompany this randomized intervention and the STR consideration is in process to find a partner for PEPReC for additional data collection and analysis.

Then the other one on suicide, it is a suicide risk stratification tool to be made available on a dashboard. Prior work has shown that for the .1 percent highest predicted risk patients, they have a 30 to 40-fold increase in suicide risk over the next three months and a 16-fold increase over one year. There is potential here to randomize facilities to different ways of follow up for such patients so kind of similar to the STORM one I just talked about. But again, further design and policy details are ongoing. They are not finalized and again, there will be a partner selected through the SDR process that is still going right now. That is the end and that is where to reach me.

Unidentified Female: We have a few more questions. Somebody wanted to know who they could contact to learn more about STORM.

Doctor Frakt: So that is through PERC. Program Evaluation and Research Center within OMHO. Jody Trafton leads that \_\_\_\_\_ [00:55:23] group. So one could inquire there I suppose.

Unidentified Female: You had another question that you had mentioned the use of correlated measures to monitor if providers might be targeting a particular measure for improvement, the person wanted to know can you either speak about the approach to selecting correlated measures or provide some reference material they could consult.

Doctor Frakt: Well, the reference material I can…I should have thought to add this to the slide but it just came out. So if you look in the most recent…actually it is not in the most recent issue. I think it is probably out in early view or whatever it is called for \_\_\_\_\_ [00:56:01]. There is a commentary by me and Steve Pizer had Julia Prentice it is called Metrics that Matter and we discuss this issue in there and there may be some references but that is where I would go to look.

Unidentified Female: That seems to be it. No questions right now.

Doctor Frakt: That is fine. I know I used most of the hour so I did not leave a lot of time for questions any way.

Unidentified Female: Good timing.

Unidentified Female: Perfect. If anyone does have any ongoing questions, Austin does have his email and twitter handle up on the screen right now so that is I am assuming an open invitation if you would like to submit any other questions.

Doctor Frakt: Oh, yeah feel free.

Unidentified Female: And we just had a question come in on how to get a copy of the PowerPoint. There was a link included in the reminder that was sent out this morning or I will be sending that out in \_\_\_\_\_ [00:57:00] soon as the video recording is posted. We are just before the top of the hour but we can get things wrapped up a little bit early. Austin thank you so much for preparing and presenting today. We really very much appreciate it. For that audience, thank you everyone for joining us. I am going to close the session out in just a moment and when I do that you will be prompted with a feedback form. Please take a few moments to fill that out. We really do appreciate all of your feedback. Thank you everyone for joining us for today’s HSR&D cyber seminar and we look forward to seeing you at a future session. Thank you.