

Panelist:

Fred Wulczyn

Please note: The following is a direct transcription and has not been edited.

Fred Wulczyn: Okay, so I guess we will just get started with the small number of people in our soundproof room. We will try to make this as informal as possible, so I will welcome questions throughout the time and by all means don't hesitate to stop if there is something you are not following. While I will by audience acclamation it's already been expressed, I will stay away from the more intense aspects of this. Nevertheless, will take some time to get your mind around some of the concepts so we have an hour and a half, so we should feel free to take advantage of the time to get into it as deeply as you would like to and I will do my best to keep up with you if you do your best to keep up with me.

It is an interesting area of research and I hope to convey those ideas to you. So my basic thought here this afternoon is, I want to introduce you to the notion of social context and its role in understanding permanency outcomes particularly with respect to the issue of disparity. That is variety of ways to describe it, but I will use black/white disparity or the black/white permanency gap which would be the difference in rates of exit to permanency for black kids relative to white kids there are of course equally compelling questions as they pertain to American Indians, Hispanics, Asians, what have you, all of those population groups are of interest. The underlying methodological approaches would apply although I don't know that the results would be the same although I suspect the results would be everybody's interest in.

And but I will also talk more generally about some other issues that get into this issue of context. So again to repeat the objectives here are pretty simple, we want to explore the role of social context and I will say what I mean about that in a moment and the association with disparity. Basically what we are interested here is, how do characteristics of place relate issues like how quickly kids leave the foster care system and how much of what we observe is that the individual level those are differences in kids versus differences in the places where kids happen to enter the Child Welfare System in this particular case.

Foster care and is it the variation from place to place that we should be concerned about or is it the individual level issues that we should be worried about. I'm going to be interested in place as a predictor, so what can we say about the role of place as factors that relates to for example rates of entry into out of home care. As I've already said, I'm going to be interested in the question of disparity that is, this black/white permanency gap. And discussion that I just turned to more recently is this whole notion of how does place factor into this notion of – the implementation of interventions.

The main issue here is, is every place the same or are places different and to what extent should that factor into our thinking about where and how we should rollout evidence-

based interventions. And then I'm going to draw implications for policy and practice CFSR related to disparity question and then I want to talk a little bit about a system effect what I would later call as system effect but for now we can think about it as the sort of front door, back door problem, classic attribute of systems is that they are front door and they are back door are related to one another. In more practical terms, it would be how does the rate of exit relate to the rate of entry as the system allows more kids into the – in does it have to accommodate them by moving kids out would be another way of raising that issue and I will talk a little bit about that. So it will be a fairly wide ranging conversation.

I have really two main sets of concerns that I want to talk with you about, the first is theoretical already mentioned this notion of attributes of place and the association of place with placement duration and the basic issue that we want to talk about is the relationship between social structural characteristics and I'm thinking here more -- about more than just poverty, I think there is a fairly good body of evidence to suggest that poverty does not really do a very job of capturing social organization or disorganization or the social structure of a given place. So we want to expand that in this particular case and we are going to be looking specifically at the fraction of adults that have less than a high school education. We are going to be looking at the fraction of families that are headed by females and we are going to look at the unemployment rate just as a way to get into this broad area of social disorganization.

The theoretical construct here is that in places that have less social organization they have a harder time raising children and places that have a harder time raising children will be places that you use more foster care. And so we want to know whether or not that is borne out. But we also want to pay particular attention to raise specific measures of social disorganization so not just the presence of single parent families or the presence of unemployed adults or the presence of uneducated adults but we want to look at white unemployment, white education and white family structure and look at white placement rates as they vary over the social structural characteristics of the white population and we want to do that same thing for blacks. Because there is a theory out there that says that in ecologically similar places the experiences of kids will be the same regardless of race. What varies by race is the extent to which blacks or whites are exposed to social disorganization. But then when you find whites exposed to social disorganization, their experience will begin to mimic the experiences of blacks.

So in the theoretical literature this is known in one of two ways, one is the racial invariance hypothesis. The other is its known as the ecological similarity or ecological dissimilarity depending upon which side of the coin you are looking at. But the ideas are basically the same. That when you expose children to similar circumstances, they will have similar experiences regardless of race, it's an exposure question as opposed to other dynamics that might be at play. Not to say yes...

Speaker: You are talking about the characteristics of the place and the place where children are placed.

Fred Wulczyn: We are talking about the characteristics of the county where kids live when they come into out of home care. So, it would be – what would otherwise be known as the removal county.

Speaker: Okay.

Fred Wulczyn: All right. So, yeah, there is confusion between place and placed -- placement and place. So I'm talking about the place here the unit of analysis is the county.

Speaker: Okay.

Fred Wulczyn: We will talk a little bit about that as a unit of spatial organization as time allows, yes.

Speaker: Yeah, we will now go to the census which is back level or the block level?

Fred Wulczyn: We can and the reasons to do that and then there is some literature that suggest that that's known as the problem with spatial scale and whether or not one needs to go down to the block level to reveal deeper structure in the data at that very fine spatial scale. There is some literature that is out there, it says it doesn't really matter that much but it's an empirical question. And so we won't go that far part of the reason why is that we want to look at the system. So the systems aren't operating at that level of spatial scale, they are more likely to be operating at a county level in the sense that the courts are operating and that would be analogous in the health services research to what's known as a health services area or health referral area.

So there is reasons for looking at the county level but there are reasons to understand how sensitive your parameter estimates are to the issue of spatial scale. So we are not going to get there but it's on the radar screen as far as how one would think about going about doing this analysis. Yeah.

Speaker: Are you getting any perception of the place when the child is selected there...

Fred Wulczyn: No.

Speaker: Are they won't?

Fred Wulczyn: No. We are doing this all at the aggregate level and the issue of how children perceive or how parents perceive place as a variable that would be very important but not. The problem for this kind of analysis is that you have really hard sample problems there because you've got a sample widely from a large number of diverse in order to control for the system effects at the state level, at the regional level, at the county level, all the way down to the small area analysis, which is the, the world the child or the family perceives so the scaling properties of the analysis are very important to track down.

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So we are going to go after one such as much if nothing else to reveal the problem in the child welfare literature which is that we largely ignored the issue of context, I would say almost altogether either in one of two ways. One, as a methodological problem we have not managed the problem of context appropriately from a statistical perspective and then theoretically where you do have people taking into account issues of context they would do at the individual level so a child lives in a poor county or a child comes from a poor family. And the issue there is that a lot of the effects of poverty in the literature are couched in terms of a contextual effect. And we measure it as individual level of effect. And the difference is, I take two families A and B, they have identical income, identical education, so on and so forth.

One lives in an economically segregated area. They live among other people with the same social situation and another family again, identical in every way but lives in an economically integrated area. The experience of poverty in those two contexts maybe very different, if we have measured it only at the individual level, we've completely ignored the contextual effects and so that's really the place in the child welfare literature where we've mismanaged the problem of context. And as I think, you will see there is good reason to now wonder whether we've maybe missed some important issues in the research.

So that that gets to the second concern in the methodological concern which is as I alluded to how one should go about introducing context effects into models of permanency and I would argue that we need to do a better job here. So let's talk a little bit about the theoretical concerns, how many people here would believe that placement and poverty related to one another. It's not hard jump there. But again we have problems of inference here. It is in fact true that many foster children are from poor families.

And we have flipped that around to say that places that have the same number of poor families have the same number of foster children that is a generator to produce or however you want to think about poverty in its association with placement. But to go from most foster children are poor to poor places generate the same number of foster children is an absolutely -- a conclusion one should not reach one needs to understand the relationship between rates of poverty and rates of placement. And as it turns out poverty is a very poor predictor of placement into and out of homecare. But there is a tremendous amount of variation in places with similar levels of poverty having very different rates of out of homecare. So the questions becomes well what is it about these poor places that have few entries into out of homecare even though they are objectively similar what we can say about those places that have lots of poverty or even lots of social disorganization will expand the construct.

What can we say about those places that lead to the variability in the rates of placement from those special areas? So want to -- that's the essential question here. So this has been rarely studied. We have a very few studies of the variation in placement rate period let alone thorough studies of the role of context as it relates to the issue of placement

entry and we will talk a little bit about some of the work in the same vein that we've been doing and its relationship to this work here.

I've already talked a little bit about the issue of social disorganization or structural disadvantage. Again there is a wide variety of ways in which the literature talks about these issues social capital is another way to think about it. They all have approximately similar meanings but the details are not, you should pay attention to the differences in the details. I'm going to use them here very generally without getting into too much of that nuance. But its just generally refers to a constellation of factors in and I've chosen education, unemployment and family structure. That constellation of factors dates back to Shaw and McKay where they looked at family structure, income, residential mobility as factors that disrupt the formation of families and the raising of children in particularly in urban communities they studied Chicago extensively.

It's been updated more recently by two sociologists, William Julius Wilson and Rob Sampson writing over the decade from the 90s to more recently. Wilson largely talking about concentrated urban disadvantage and what he termed concentration effects. And Sampson writing about urban crime -- youth crime and the issue of the black/white violence gap. So they are looking very specifically at the issues that we're looking at here which is at the objective level blacks are involved in much more violent crime. Their question is, is this a function of where they live or is it a function of what they would call constitutional effects at the individual level? Are these differences in people or differences in the places where people are raised?

They have largely concluded not without some controversy of course because it wouldn't be social science without the controversy. But Sampson in particular has largely concluded that to a large extent these issues are differences in place. This problem of exposure that when you find whites in living in the kinds of conditions that many African American or black kids are being raised in that those conditions have deleterious effects on the behavior of whites at comparable levels to those reported for blacks. The issue is much greater economic segregation of blacks as compared to whites. So we are simply asking a similar set of questions and at a very general level asking the question does that kind of thinking have a place in the child welfare literature and the way we think about the problem of placement disparities, exit disparities and what have you.

And then, yes, I suppose arguably somewhat of a tangent in this line of thinking but worthwhile nevertheless to sort of think about this issue of system effects. The notion of system reform, what have you is arguably one of the most overused phrases in the child welfare business particularly if one thinks about how much time is spend understanding what a system is. And the empirical study of systems as they exist, I mean, there is a long, long, long literature in various sciences, the biological sciences, the physical sciences about systems that is very formal literature on that. Almost none of which has been imported into the child welfare literature and the one that I'm primarily interested and have alluded to already is a very primitive form of system behavior which is the inflow and the outflow have feedback relationships that has during periods of raising admissions, you might easily observe periods of raising exit rates because you have a

supply constraint system. There is only so many beds, if their kids come in the front door and you are increasing the number of beds there have to be kids going out the back door. And that kind of feedback adaptive mechanism is a powerful feature of a lot of systems and in this particular work I'm just looking for evidence to suggest that there is a correlation between the volume coming in and the volume going out in a very simplistic way. But again it began to bring some more formality to this idea of systems – reforms, so I'm sort of piggybacking that conversation into this one.

So let's dig a little bit deeper into the methodological concerns, any questions so far. If anybody wish they hadn't shown up? So far so good then.

So the methodological concerns again alluded to them more or less already I will state them more formally here. Generally and this includes myself before I got off on this line of work the main issue is, we will do a Cox model proportional hazards model where we will look at the time to, time to exit, time to permanency, time to reunification. We will have a set of child characteristics or attributes. We will have a set of family characteristics. We might even have some place characteristics like they are living in a big county, in urban county is a popular one will use that one later today. But they will all be located what is known as the individual level or the level one of the model and all of the information about the place is spread to each one of the individual level records.

And that's just a classic approach and is responsible for a lion share of the findings in the child welfare literature over the last 15 or so years and to the extent that there are flaws in that, I'm as guilty as anyone in having produce those findings without properly taking into account the nested structure of the data which is what's generally referred to as the nested structure. There are technical reasons for worrying about the nested structure. They are related to the correlated error terms in and so and so forth, a non-independence assumption that is part of standard regression. So there are good technical reasons for having – for being concerned about that.

I think the more interesting issues are on the theoretical side, the kinds of questions that one is invited to ask when you start thinking about the nested structure or the data and the place that one wants to put the emphasis in terms of your model of understanding.

The second common approach is a regression model where you would be looking at the placement rate for a county. So the county placement rate is 5.4, it ranges from 0.5 to 10.0 and each county is a record in the file and there are attributes of the county in the file and so you are predicting the county poverty rate and the county placement rate in that association. So if you have 1000 counties like we have in this study there are thousands records in that file. And if you were to go to a conference or to submit a paper, the first thing that you would get in terms of commentary back would be, have you thought about the ecological fallacy because relationships at the aggregate level don't necessarily follow as relationships at the individual level. So you might have a hard time getting that paper published.

But that's the classic model for doing that issue of, how is the rate of placement which is a characteristic of the county related to other county characteristics. So it's a classic regression model approach. And then there are the new techniques probably a new catching on in our field, I think probably in the last couple of years in the social sciences generally from the early 90s forward largely driven by our ability to do computing on our desktop. If it weren't for desktop computing we would be well behind the times on all of these things. I think about many of you – some of you might remember 80-Column cards in computing in those days. So I gave my – one of my research assistance a bunch of models to run in, in HLM and said you know, do this, do this, do this, do this and if its at all possible I would like to have this done by Friday of this week. And after I left that conversation I said if this was 15 years ago I just gave him nine years' worth of work. So it really is breath taking what the – what we can do today and I think that's largely responsible for these advances. But the issue is and I will show it to you in more detail, is it rationally going to do both of those things at the same time. In the context of the same model and it really is breath taking in terms of what you can learn from doing that.

So again we have talked a little bit about this, my hypotheses are the places with similar ecological structure, social structure will affect the population similarly that's the basic ecological similarity hypothesis. It is relevant to questions of race and exit rate disparities which we will focus on.

I've already mentioned family structure, dull education levels, unemployment, we have a host of other variables. We've got segregation indexes. We've got income measured in various ways. Housing residential mobility basically everything that's in the census data, we have brought in and we're just starting to look at things in this way with some promise but I wouldn't argue that. We are anywhere close to having figured this out sort of the most parsimonious set of independent variables in the model. But we are starting here and I've already mentioned the feedback phenomenon of entry and exit are related. I think that our hypothesis was that indeed they will be related.

So here is our starting point. And what we have here, what are known as fixed effects event history models. These are in effect cox models where all the variables are at the individual level including as I get into this the urban character of the county. Is it an urban county or not. That was at the individual level and so each child's record has that information on it.

Because we are operating in the multi-level framework we are actually not using cox models, but we are using a mathematical equivalent which is known as the discrete time hazard model if you have small intervals of time. They are basically the same thing but what a discrete time model is, as you take length of stay let's say its 18 months and you divide it into six month periods. Each person that person has three six month records that's called the person period record. And its zero if the child was not discharged during that month one if they were and then you can vary the discharge type to whether its adoption or unification or what have you and then those intervals of time are analyzed in a logic regression model.

So it's a zero one, was the child discharged or not and then it's you are analyzing each one of those six month intervals of time. So we are treating that has a fixed effects even history model and as I said this is sort of the classic representation of the data. The yellow line, I'm sorry, guess it's the orange line at the top at one is for whites. And in this particular case for each exit type on the bottom reunification, adoption and discharges to relative from your left to right. We are asking the question, what is the rate of discharge for blacks relative to white, if the exit type was reunification.

And we are asking the same question if the exit type was adoption, we are asking the same question if the exit type was a discharge to a relative under some sort of guardianship or what have you. And what you can see again, it is a classic findings which is that rates of exit to reunification are about 68% of the rate for whites if you are black, so blacks are moving more slowly to reunification than whites. The same is true for adoption and for a relative exit actually there is little difference between whites and blacks. If they get discharge to a relative blacks and whites are leaving the system at roughly the same rate of exit and the – this is the foundation of the observation that there is disparity in the rates of exits for blacks relative to whites. This is, if you will the black/white exit gap, okay.

Now, why don't we call it a fixed effect? This is over roughly 900 or 1000 counties, I forget the exact number. But it's a fixed effect because it's assumed to be the same everywhere. So in each county we would find roughly the same effect. How many people think that that's actually what we will find. That in – this collection of 900 counties, just simplify it that blacks will always be reunified more closely than whites actually nobody believes that. But you would believe if I told you that we took nine – we took – this is basically 70,000 kids, we analyzed the rates of exit to reunification and found that blacks leave more slowly than whites. You would believe that but you won't believe that it's the same effect in every county – in the collection that we used.

So, how do you do both? And is it possible that there are some counties where blacks are actually reunified faster than whites. And how does that factor into the analysis, that's the question. So the first thing we did is to ask exactly that question, we took this very simple model and repeated it four times for each of 400 counties whether a black kids in the foster care system. So instead of one model summarizing overall, all counties we have one model for each of the counties and then we graft the race effect. To see whether or not there are places where in fact blacks do go home faster to reunification, adoption or relative guardianship. Just to see what the distribution of race effects is over that population of counties.

So the interpretation here is that that race effect that 0.68 is an average effect over all of the counties. And it says nothing about the effect – the extent to which it varies. So what we are not asking ourselves is, are there places where actually disparity is greater in the event we would want to focus efforts to reduce disparity in those places where it's greatest. And maybe not focused on those places, where there isn't any disparity, should such places exist. We simply haven't asked the question.

So, our answer, these are the law reunification rates for the counties, reunification and adoption once we got the same picture twice, we decided not to do it for relatives because we figure we will get the same thing. And it was tedious doing 400 miles.

Basically zero means there is no black/white gap. To the left of that our places where blacks are reunified more slowly on the left chart, on the right chart to the left on that line is places where blacks go home more quickly than whites. So basically in this bend right here, they are leaning it roughly the same rate, at this tale of the distribution they are leaving more slowly, this tale of the distribution they are leaving more quickly blacks relative to whites. So that's measuring the placement – the exit gap in 400 counties and what we find is, besides part of my legend not being there, is that across 400 counties black children are adopted as fast or faster in nearly 50% of the counties. That's a long way from this slide it says blacks are adopted more slowly, their exits to adoptions are 71% of the rate for whites so big difference.

We initially thought well, this is because we are talking about a bunch of little tiny counties and while we have got half the counties, we are only talking about 3% of the population of black kids coming into out of home care. So this is really much to do about nothing, it really is a question of the waiting of the sample at the county level versus the individual level. Well, it turns out about 40% of the kids – 40% of the black kids are placed in counties where adoption rates are faster for blacks and whites. So its not a non-trivial slice of the population. And it's a little bit less about a third of white – black kids are placed in counties where the rate of reunification is faster for blacks than it is for whites.

So it clearly is the case that there is tremendous variation in the black/white exit gap. And we know nothing about the places where that gap is large and/or small or favors blacks, favors whites whatever the case maybe. So to the question of where would you put your dollars to have the largest impact on disparity we have no answer to that question because we treated it has a fixed effect. It's the same everywhere. It's not the same everywhere.

So how do we resolve this question, I think again talked a little bit about this one already, but we are going to go to a discrete time model what was already presented was a discrete time model. But, the person period just to bring that back home is, we are dividing the length of time measured in months by the length of an interval we defined the interval as six months so if you have been in care for 15 months, 6 into 15 goes twice plus 1 because they made the third interval, right. So they have got three records, the first ones, the first two say, they were discharged in this interval, the third one says they were discharged and then we can tell what type of discharge it was and then we are taking a log odds of discharge in any given interval, okay. And that model is given down below, this is the standard fixed effect model where the log of p over $1 - p$ or p over q , those are the log odds. And then we are saying it's a function of β_0 which is an intercept. It's the average rate in this particular case since we are not controlling for the interval. It's just the average across all of the intervals. And then there is a race effect and age effect,

a care type effects so race black age zero would be children who are either under one at the time of admission or not. We have other age breakouts but the models, I wanted to simplify.

Care FC is foster care, so the child spend most of their time and foster care is supposed to congregate or relative care or other care types where mixed care types as the case may be. And then the variable PPHFYR1 is the person period half year, it's the first interval. So everybody understands that kids leave care at a higher rate within six months of placement and from there they slow down. So we are just controlling for whether or not the interval of time is the first interval or not again we could treat that as a continuous variable or a discrete variable lot of different ways to parameterize the effect of which interval you are talking about. But again for simplicity sake, I'm just asking for you to think about the rate of exit in the first six months versus the rate of exit in subsequent intervals. And then the last one is urban, whether or not it was an urban county or not. And we are going look at this model, the intercept here is simply the average for non-blacks older kids in non-foster care in other intervals besides the first one in non-urban areas that's what the beta zero terms is and then those coefficients are the increment to the intercept that's associated with the attribute of the child that you are looking at. Its interpreted has a standard regression model for all intents and purposes.

The second model is a repeat of the first although now we are getting into that's supposed to be in this pattern performed, you can hear me et cetera et cetera. So you will see here this is the same model all the terms have been retained with the exception of one, which is the urban character of the county. That's a characteristic of the county not a characteristic of the person. So we move that towards known as level two of the model. And you will see that in this particular case because I have these error terms here, these are all random effects in the model. If I didn't have the U terms in here that would be the fixed effects model would duplicate if you did it in just a straight – discrete time frame work without the multi-levels but because I got the error term what I'm saying is, I'm going to allow this parameter to vary at random. But I'm going to explain some of that variation by whether or not it's an urban county or not, okay.

The rest of the random variables I'm not going to try to explain just yet. But this is in effects saying the intercept is going to be allowed to vary over the counties and I'm going to control for the counties so it would be, 10 amount to saying, I'm going to take the county records, I'm going to take the average rate of placement – exit from placement And I'm going to use the county attribute of urban or not to explain the variability if I was just doing it at the county level. So that's the translation that's taking place. I want to say control, remember I said that we are going to integrate both things at the same time. So here is the individual level model and at the same time that I'm evaluating the effects of these attributes on the persons rate of exit, I'm going to take their clustering into account, the fact that they are nested within counties and ask the question how is the urban character of the county related to the intercept that's called a random intercepts model.

Am I getting this right Hendricks?

Hendricks: Yeah.

Fred Wulczyn: Excellent. Because it gets a little bit hard to hold on to at times. So the first thing we want to do is, we want to look at the fixed effects discrete time model. This is just more or less a repeat of what we looked at before in this particular case, I have permanency in general, reunification, adoption and guardianship, so the permanency is these three things together and then I have the effects at level one, the fixed effects model and these are – this is what the intercept term is for each of the models. So that you could see that for permanency in general, it really basically is the sum of these three effects right here as we go from reunification to adoption, to guardianship, in a sense that intercept term gets smaller and smaller because the base rates of exit are lower for those exit types.

You will see the urban effect, they tend to cluster under one which means the rate of exit associated with being in an urban county slows things down. Again reported 100 times in literature nothing new there. The race effect, we looked at this a little bit earlier again below one with the exception of guardianships, it's above one. This is – compared to the prior slide, this is a slightly different time period I should actually mention that this is a 2000 entry cohorts that we could line up, the census data with greater precision. But again it shows that kids who – black children who leave to guardianship do so at a rate its faster than for whites relatively speaking above one is whether or not you are under the age of one or not and for permanency generally babies have higher rates of permanency, lower rates of reunification, much higher rates of adoption and guardianship not much different than non-babies.

Foster care same kind of findings as you would expect adoptions from foster care is a little bit greater than non-foster care partly because that includes group care and then finally whether or not the interval that we are looking at is the first – in the first six months are not and for permanency generally rates of exits for permanency generally are much higher than first six months pronounced for reunification, I had to wonder here why the adoption is so higher that might be a transcription error and guardianship also rates of exit actually, oh, I know what it is, read the [indiscernible] [00:42:28].

This is not the first interval, it's the fifth interval so it's the end of the third year, one, two, three, four – it's the beginning of the third year. So adoption is so unlikely for the first six months rather than compared rates with exit to adoption in the first six months, we just shifted it to new to look at the beginning of the third year and compared to other kinds, when the child likely adopted the rate of exit in the third, at the start of the third year is high relative to other points in time.

So that was just a slight shift in the axis or in the metric of the time period in order to create a little more clarity. So this is again, this is just your basic stuff big race effect particularly for the non-guardianship permanency exits.

Questions about that that should be fairly familiar if you have been keeping up with the literature. So now we looked at we are looking at the random effects. We are trying to control for the clustering of the counties and the fact that lots of black kids live in urban counties. So the essential question would be, are blacks moving more slowly because blacks move more slowly or blacks moving more slowly because they are placed in, in places where kids regardless of their race move more slowly.

So we know that there are some spatial segregation when it comes to parts of states where there are lots of black kids parts of states where there very few black kids. One of the things that you – we encounter right away is that there are quite a few places in this country counties that have black children living there but no black children going into foster care.

There are white kids going into foster care in those places no black kids. So right away, what does I tell you is that the white effect is generated around places where there is no contribution to the black effect. There are no black kids there. So the benefit or that the speed or the speed whether its fast or slow is affecting the estimates for the white kids but not the estimates for the black kids because there are no black kids there. I mean, that's just one sort of plain and simple way of telling about there is no exposure to bring into the model. So when we correct for all of that stuff basic intercept issues are largely the same, the point estimates of the intercepts are higher so we are controlling for some of the noise, the thing to focus on right away is that for reunification there is no level 1, that is to say person level effective rates, on rates of reunification goes away.

Why, because there is such a strong urban effect. Now we can argue whether or not the urban effect is really a race effect or a personal level effect or a place level effect. I think that's an important part of this conversation that we would need to have before we understood what to do about this. But there are very strong urban effects but remember this is not at the individual level anymore we are accounting for the nesting of people within urban areas as a level 2 control. So the race effects for reunification go away almost entirely that is there is no black/white difference, it's not just any significant.

The race effect – I'm sorry, permanency for reunification non-significant for adoption that still is a significant difference and for guardianship the magnitude of the effect gets even larger.

So the point here is again to understand how accounting for the nested structure of the data effects what we understand about what's true with respect to the experience of individual children in relationship to the context in which they live. What it's suggest is that children placed in urban counties whether they are white or black go home more slowly. And that black kids are much more likely to go into out of home care in urban areas partly because of residential segregation an argument very much that came to the Wilson Sampson, Shaw McKay argument. And so far as once we account for this spatial clustering of residence we begin to change the meaning of what we see at level 1 as opposed to level 2.

Questions Kurt?

Kurt: That's only true for permanency and reunification?

Fred Wulczyn: That's right. For adoption, there is a residual adoption effect. Now we haven't controlled for everything that we might want to control for so we will go and see whether or not adding additional co-variance to the model because all we've done at level 2 right now is ask the question is it an urban county or not but we might ask well, what about the role of family structure? Maybe in places that have lots of single parent families now let's generate the hypothesis now. In places that have lots of single parent families what's the effect on reunification rates, does that speed it up or slowed it down?

Go ahead...

Speaker: Slows it down.

Fred Wulczyn: Slows it down. Anyone who want to contest that hypothesis? And what about adoption, places that have lots of single parent families have on average higher adoption rates that is the speed of which adoptions are completed, is that higher or slower than places with fewer, is it the flip side of the coin or is it the same coin?

Speaker: Is it a little bit apples and oranges in the sense that permanency or reunification is going back to the same place and adoption could be any more in the space, right?

Fred Wulczyn: That's true. That's true. Good point. Well, let's take a look.

Does the impact of context differ by, so generally I don't have any nifty graphs so I'm just going to try and summarize this. Educational levels of the adult no general effect on the intercept but urban matters, so in general we've talked a little bit about if I include both the adult educational level and the urbanicity of the county and I find that being urban matters on permanency in general but the educational level does not.

Speaker: I'm sorry, the educational level is still level 2, right? You are doing average...

Fred Wulczyn: That's right. So it's the county, it's the proportion of the population in the county that has more than or less than a high school education, okay. So the interesting thing about this is though that it is a combined effected permanency. So there is an effect on reunification more uneducated adults slows down the rate of reunification.

Urban areas also on top of that have slower rates of reunification. For adoption whether it's an urban county or not does not seem to matter but more uneducated adults speeds up the rate of adoption.

Speaker: So in the case of interconnect transfer a child's being adopted in county and not their county of origin, how do you...

Fred Wulczyn: How do you account for that? We are not accounting for that. Hard to do with administrative data.

Speaker: Another rate of – out of common places?

Fred Wulczyn: No. It's a good question. Just a limitation of the data just to whether or not – I mean, once they get adopted they are not really interested in allowing you to follow them into the family that adopted them. So tracking that becomes a little bit difficult. And in the interest of full disclosure, we don't really know whether or not the family is still living in the county of removal, they might have moved from that as well, so there is noise. But the effects are substantial. I mean, the families unless it happened all the time, every time, the sample of kids for whom that would be true that is they are not being adopted in the same county or they are not being – it would have to be a large effect in order to skew the effect that we are seeing when its spread across all children regardless of where its going.

Speaker: Filter in what's service provision there is, as it could being that those loaded in reunification those counties are core counties generally and not services right there. Those families are not getting reunification...

Fred Wulczyn: Right.

Speaker: And the parents don't have lawyers to help them in certain things in adoption that's...

Fred Wulczyn: Right. So that's the next part of the research is sort of figure out, these are the social demographic characteristics in place. Now there are system characteristics, capacity, preference for using relative homes, lots of different attributes again. Attributes of place that's speak to the question of what is it about the systems, so it maybe that there is a relationship between system capacity and permanency outcomes but only in counties with above average incomes. Below average -- counties with below average incomes there is no relationship that's the issue of cross level and cross level and interaction effects that we might expect to see. Again just an area that people have the question but we haven't used the right statistical methods to get at the answer bring precision to both the theoretical as well as the empirical constructs that we are working with.

Speaker: More like kind of [indiscernible] [00:52:59].

Fred Wulczyn: We go till 3:30?

Speaker: Okay.

Fred Wulczyn: So any other questions about that Hendricks did you have – so far so good, okay.

Speaker: Can I just backup, what is the data collection method, are these survey sent to counties?

Fred Wulczyn: No, these are – this is administrative data, I'm sorry that I didn't clarify that. So these are the administrative records for – forget how many states but its roughly -- we are looking at roughly 65,000 admissions.

Speaker: Are these like samples to you?

Fred Wulczyn: Yeah, exactly, okay. We talked about the adoption, right. So now female headed families permanency, no impact on permanency proportion of families headed by female headed families doesn't have an impact on the aggregated permanency rate. But when we break it down, we see roughly the same details places with more female headed families have slower reunification rates that's a significant indicator and adoption more female headed families faster adoption is the sign but it's not significant. And so we can't claim that there is a duplicate effect but basically what you are seeing is that the ecological context has an effect but its different effect depending up on whether you are looking at adoption versus reunification. I did not look at relative exists, so I – but there would – a similar analysis would be warranted on the relative exit side of this.

Race specific findings so now we talked a little bit about – at the outset about one of the issues that Sampson and Wilson in particular have focused on is the notion of ecologically similar racially distinct, we don't get exactly to that issue but it does prompt the question what about race specific family structure, rate specific – race specific educational levels in relationship to race specific exit rates.

So permanency for whites, family structure black children in counties with many female – white female headed families move slowly to permanency, it's mostly an adoption effect, education is not significant. For blacks family structure and education are not significant. That is black family structure and black educational levels do not have an effect on permanency for black children. This is similar to what we found on the entry rate side of all of this, which is that the effects in the direction you would expect them to be in are far more pronounced for whites than they are for blacks. So for example, the relationship between black child placement rates per thousand and -- I'll keep it simple black child poverty rates. There is no relationship.

That is to say across the X axis various levels of white – black child poverty rates at the county level, high to low. The line describing the rate of placement across levels of poverty is essentially a horizontal line to the X axis, which is that black child placement rates are invariant to black child poverty rates. For whites it's completely different. There is a very strong positive relationship where you have low rates of white poverty, you have low rates of white placement where you have high rates of white poverty, you have very high rates of white placement. So on average you see a positive relationship between poverty and placement but there is a very strong interaction effect between white – its very different for whites and blacks.

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So this is suggestive of something along those lines whereas you see something for whites that you would expect but you don't see it for the blacks. And I'm not sure what that means I think it casts the issue of disparity in a whole new light if you will in the sense that we could be observing the current rates of disparity or the over representation of blacks and it be related more to the issue of under serving than over serving. Right now the assumption is, it's all about the over serving. I'm not sure that the data would suggest that's in fact the case but we would need to control for other attributes of system supply. So given a place it has the same level of poverty and the same level of service divided by race whites and blacks what then is the rate of entry into out of homecare given similarly situated children again to go back to a characterization.

A lot of the analysis in the racial disparities we will look at similarly situated children but similarly situated children is measured at the individual level, same family structure, same income, same job history et cetera, et cetera as opposed to similarly situated as in they live in the same kinds of places. We focus much more on the former, much less on the later as we construct this notion of similarly situated children.

It's the absence of that later piece that I think is a real blind spot in our understanding of what accounts for racial disparity in the child welfare system. And without an appreciation for that again I'm not saying that disparity has gone away, I'm, saying that where we think about how to intervene depends on the characteristics of place particularly with how much success we can expect to have. I will say a little bit more about that part of the hypothesis in a moment. Actually won't be so long it will be right now, yes.

Speaker: Can you go back one slide for a second? There is another way of describing what you said in your – if I understood you correctly you said that the whites the – the way of hovering in those communities that related to adoption periods?

Fred Wulczyn: Yes, right.

Speaker: Okay.

Fred Wulczyn: Yeah, well, not poverty but family structure.

Speaker: Family structure?

Fred Wulczyn: Yeah.

Speaker: All right, okay. So family structure is related to adoption rates for white kids?

Fred Wulczyn: Right.

Speaker: And it's not for like...

Fred Wulczyn: That's right.

Speaker: That means if there [indiscernible] [01:00:02].

Fred Wulczyn: That's correct.

Speaker: And in order those to fit with a low level of poverty?

Fred Wulczyn: They are very far apart. So the – so at the high rates of poverty the disparity is lower. And for the low rates of poverty the disparity is greater.

Speaker: So it's like for white and black kids look closer to get resemble each other more...

Fred Wulczyn: That's right. In places with high poverty there are lots of kids going into out of home care regardless of race. Now there is still a disparity rate more black kids than white kids but that disparity is much smaller than it is at low levels of poverty. That's on the placement entry side of things, on the placement exit side of things, blacks in counties with many white female headed families, I mean, this is, I'm sort of flipping things around here provided I didn't make a typo. But the role of – the role of family structure for whites is largely an adoption effect not a reunification effect. So you are really getting these sort of competing risk notion you really have to look at the type of exit in order to see what's going on. And I've not formally looked at the interaction effects. That's the next thing. Kurt?

Kurt: I was going to say that if there be interaction with age going on as well...

Fred Wulczyn: That's correct.

Kurt: So will be related to the adoption made that if the age distribution for blacks are difficult than whites...

Fred Wulczyn: Correct.

Kurt: Then they explain a lot of this.

Fred Wulczyn: Yeah that's right. Although it turns out there – there isn't a lot of difference between white babies are still – the disparity for whites babies compared to all other whites is roughly the same as it is for blacks, but you are right. There is – we didn't – I did not do any of that these are just very simple models in the sense of let's see what controlling for context properly does to what we think we know in such a simple fashion. It's really easy to – that's the problem with the computer, you can run a 1000 models in an half an hour and be left wondering what I have done in terms of trying to make sense of it all and particularly with these models where the regression is regression, you sort of – have your set of independent drills but this very much depends on how you build the model and what your theory is in terms of how you interpret the co-efficient and whether its random slopes, random intercepts, random slopes and intercepts and then how you

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centered the variable I did not do any centering of these variables. So that's another thing that you have to bear very closely in mind and so lots of technical stuff.

The point here as I said earlier is largely to demonstrate that there is a lot more to be done this notion of context then we have thus far allowed ourselves.

Speaker: I have one, I'm sorry...

Fred Wulczyn: Ask...

Speaker: Maybe a little technical but kind of related to what you just said I've done some models with not census data but ACS data so it's similar stuff using AFCARS and I have noticed those community level – this county level effects seemed very – like very blunt instrument. They are moving around a lot like if I put a poverty line in and an unemployment line they correlate, they do all kinds of crazy stuff, and I was wondering when you were – as you were building these models those second – are you finding – are anybody else is working with us. Are you finding that those second level models when you got about 700 counties or whatever, and a lot of kids in each county. Are you finding that these factor moving around on my current data but I mean they just seems like they move around and you take one, second level of that out some of the random effects start to...

Fred Wulczyn: Yeah, yeah, I know. Yeah...

Speaker: Not really weird it out.

Fred Wulczyn: You have to be – you have to pay very close attention. I mean that's the because some of that would be expected.

Speaker: Right.

Fred Wulczyn: Because when you move it depending upon where the effectual up in the model, its absorbing, so if you have it on both the slope and the intercept or you taking off the intercept and it's just a slope effect. So you have to think very carefully about how you do all that. So some of the stuff jumps around, yes. And we have not bothered yet to sort of get into the factor analytic techniques to create indices of county characteristics that are basically composite of the variance. The counties that have lots of everything...

Speaker: Right.

Fred Wulczyn: ...in contrast to counties that have not much poverty but they have lots of single parent families for whatever reason you have this sort of ecological anomalies that are important. And you need to – I think you do need to do a better job of managing the co-linearity on your independent variable side.

Speaker: [indiscernible] [01:05:08] that's already we mentioned and a few changes over the years....

Fred Wulczyn: It is and but...

Speaker: Two variables that are...

Speaker: I mean you have got...

Speaker: ...are related.

Speaker: I mean, you've got unemployment and you have got – we didn't – I did high school education unemployment and poverty and they were behaving some badly and so I had to just pick one...

Fred Wulczyn: Right.

Speaker: ...and then the model sort of came together and..

Fred Wulczyn: Yeah.

Speaker: ...started because they are. They actually were in my data they actually acted very similarly if I just choose one of them.

Fred Wulczyn: Right.

Speaker: The model in...

Speaker: With more stuff, yeah.

Speaker: Yeah, watched it all.

Fred Wulczyn: Correct and then the little bit that we've done on this is, is to just sort of rank order the counties very simple, rank order the counties on five indicators and then just where ever a county is in the top quartile on all the indicators just say that's a category of counties and that let the variability in the other categories sort of be that variability and the just see how that behaves. There is lot of diagnostics that you can do to test whether or not the collinearities of problem and I would recommend that you do it. Because there it's – as I said it's easy to lose track up. So the last, the last bit that we will talk about here is this question of system effects and rate of admission related to rate of exit, I've already talked about this classic system phenomenon. So our approach here is to model the rate of admission single variants. So we are looking at a high school education, unemployment and family structure and we are asking how do the attributes of the place relate to the rate of entry in out of homecare. These are different class of models they are plus event account models and we are then going to take the residual, standard residual the observed minus the expected and ask the question, are there places

how does whether or not you would admit more kids than you would expect giving the level of social disorganization.

Let's get back to the idea that I was talking about a little bit ago where you places with exactly the same level of social disorganization but radically different rates of placement and we are just asking the question whether or not the absorbed rate of placement given the average relationship between those place attributes and the entry rate out of homecare, are you on the high side, you more than you predicted or on the low side for fewer than you predicted based on the average relationship and we are going to take that residual and added to the model of exit rates. It's a little bit different than what we've done before which was we just took the raw rate of entry and found that among all of the ecological attributes that actually had the most powerful effect, more powerful than poverty, more powerful than family structure if you had a large volume of kids per thousand coming in you had a large volume of kids per unit time leading high rates of reunification.

And one would want to take that into account when making judgments about the data, this is just what the scatter plot of those residual look like we are kind of pleased that this is the way it look like because it could have been – it could have been much less pretty. And it could have been more disturbing from – in the sense that this is – so there are 339 counties where we overestimate both the black and the white placement rate.

So what we predicted was greater than what we observed that's in this plot here. Here we've got 213 counties where we overestimate black placements but underestimate white placements. This would be the cup of quadrant that you would be concerned about from a disparity analysis at the front door. You are in place, you control for the context of the place but you under admit whites and over admit blacks that's a place to start looking.

Here is a place where we under estimate both whites and blacks. So maybe that's an efficient system. There – I knew I was going to – if you underestimate your residual is – your expected deposits, so your expected is less than your absorbed, right? Am I getting that right?

And then in 124 counties you underestimate blacks and you over estimate whites, so that's the flip side of the coin, which one of the situations represents the optimal performance of a child welfare system relative to the question of disparity. You are over placing both, you are under placing both, you are over placing one, under placing the other and the flip side of the other – in the other place. That would from a entry rate disparity perspective that would be a far more reliable diagnostic of where you might want to work, right? But from now we are just going to take this residual and ask the question how does that relate to entry into out of home or exit from out of homecare.

So raw placement rate is strongly associated with reunification, rate of entry and rate of exit are positively correlated particularly strong in the first year. And if you think about sort of system effects that's I mean the theory of why would placement rates – high placement rates be associated with exit rates particularly in the first year. While the

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theory is that in places where you have a wide open door for entry into the system, a high placement rate. The theory is that you are bringing in many more kids who don't need to be there and you are allowing the other checks and bounces in the system to figure out that you let kids in, who don't need to be there and then you let them out and that all happens within the first year.

But after that – after that sorting is taken place that system effect dissipates and now rate of placement no longer makes a difference that's the theory and indeed we found that that effect observe that got hypothesis. But now we are asking a slightly different question, what is your – are you under or over placing, its not -- all of the urban areas have huge placement rates but they don't all have placement rates in excess of what you would predict given the levels of poverty in those places. Actually many urban areas have much lower rates of placement than you would expect given the amount of poverty and other measures of social disadvantage that are commonly found in urban areas.

So we are asking the question now about the effect of these residual. So early in placement positive residuals are associated with faster permanency. It's actually the flip side of the volume question. It is though systems that manage to keep kids out are also good at getting kids home.

And larger effect on reunification and it slows down adoption not sure what that means. And then later in placement it depends on whether you are looking at the slope or the intercept in terms of what the effect is.

Again the main issue that I was interested in I guess, I didn't finish that one, my apologize. Actually for some reason I think I pulled up the wrong set of slides, I did finish that but we are running out of time. So the implications I think are – I don't know the implications, I know the implications from where I sit and basically we really are to do a lot better job of controlling for context in the way we think about these kids nested. I've not controlled for the fact that the counties themselves are nested within states. So there is yet another level that we need to account for, three level model, kids nested within counties nested within states, so what we are observing maybe state level effects large number of these jurisdictions – children are served by private agencies, so there is a fourth level children nested within private agencies nested within counties nested within states. We don't know the answer to that question.

More and more states are turning their foster care systems over to private agencies, I do know that the range of variation between providers within counties is substantial but it is unaccounted for source of variation from a performance monetary perspective. We have the data to do that and are getting ready to do the four level models controlling for provider. We don't know about spatial scale and the question as to whether or not county or sub-county matters we do have some data at smaller levels of spatial scale including blocks and sensors tracks, so we will be able to get after that a little bit. What we do know about that is that slopes and intercepts differ for whites and blacks that finding seems to be consistent across levels and spatial scale although we've only looked in one

jurisdiction and as we have been that relationship could be a variable itself. So we need to understand that.

Performance in context I think, I alluded to it when we talked about managing, if you are state managing a local child welfare agent – local child -- a county or you have the contracts with your providers, if you are not controlling for the nested structure of the fact that some kids are cared for by certain providers as opposed to others. It's actually a multiple classification problem because children are served by multiple providers so we need to account for the fact that they have exposure to different providers and tease that apart. And I had another thought they will come back to me and then finally this issue of implementation in context, this is a question that has recently come up. Next is question of, if you are putting in an evidence-based practice where do you put it? With the expectation that it will have an effect and does the underlying efficiency or inefficiency, if I can characterize what I talked about earlier as some places have higher rates of admission than you would predict given social context and system structure let's just throw those two on the table. They have higher rates of admission than you would predict or lower rates of placement than you would predict and you are trying to implement an evidence-based placement prevention program, which of those two places would you decide to go?

I call, to me the phenomenon is where is the juice for the squeeze, in the place it has more placements per thousand than you would predict given what you know about the place that seems to me like a better opportunity for implementing an evidence-based intervention because its less likely that there is something already there providing the protective effect of a child welfare system that's doing a good job.

How do we know that? Well, because in other similarly situated circumstances we see much lower rates of placement. So logically it would seem that implementation opportunities are riper in those places that have higher than expected rates of placement if you are implementing a placement prevention program, if you are implementing a permanency program, you would exercise the same logic.

As of right now we are treating all of these places as though they are equally inefficient and that's not the case. So with that I will open it up to final questions? We've got about 10 minutes.

No questions.

Speaker: I just have a comment, I think if you are thinking about developing your invention program for example, the discrepancies that you are talking about, I think, I mean it's obviously, Bill Gates isn't walking around [indiscernible] [01:18:08] its like to implement these programs wherever the need is? I mean, my guess is that there is some kind of micro systems involved in that accounting group, their disproportionality or problems are really because they want the program because they wanted the money.

Fred Wulczyn: Right.

Speaker: So...

Fred Wulczyn: That's an attribute to place.

Speaker: Yeah.

Fred Wulczyn: Right, you should be able to if you can measure those attributes and that's again we have to theorize as to what are those I don't know that we have – we have some general ideas but from the literatures perspective we don't – we haven't really done the job of – we have community partnerships for protecting children. But they treated all of those sites as though they were the same without any consideration for the fact that their base rates of placement going into the intervention could have been radically different and that could have affected the likelihood that they would be able to generate an effect, seems to me that could be a problem from a design perspective. So it's something that you ought to have pre-implementation, if you are setting up sites, we have encountered this problem in New York City where they have a targeted intervention and very high rates of placement in this part of the city extraordinarily, second highest cluster of census tracts in the city. But when you look at the rates of poverty in that place and then adjust the context at – they actually have a very low rate of placement relatively speaking. So whether or not they could have moved the needle and particularly if what they are trying to do is add to the social capital. Well, they might already have a lot and so that would effect this strategy in one or two ways, a] it might not go there because they already have mechanisms for protecting children that are pretty vibrant or you would analyze what would you do where they have those strong mechanisms and social capital, what would you do to add to it in that particular instance, what are those mechanisms?

So that again that kind of thinking as a pre-design attribute of what we do largely missing from my perspective in the field.

Speaker: I think these are really intriguing kinds of models in here and it kind of reminds me off the – if you think about the mission of -- I think you can help us better things to help that ways. That is if you are looking -- what are the next sets of strategies and approaches, we will produce that way rather than existing [indiscernible] [01:20:49] and that resolves something. It seems to me kind of analogy to person wise notice something that is, if an individual basis we know that if we have very complicated system one box of invention is not going to work.

Fred Wulczyn: Right.

Speaker: And so as we start of think through these illustrations of, what are these alternatives poses in here, how many do you think are likely to come about and then how – could you take this model and approach and really get a possible intervention at the county level?

Fred Wulczyn: I think you can, I mean, so what we've proposed is to take the area resource file which gives you a bunch of descriptions of counties as health system areas. So we are using health system as an analogy, well, as a proxy for, if you invest a lot in healthcare, if you have got lots of pediatrician, lots of doctors, lots of social workers working in hospitals, and we will probably zero in on the one to five or the zero to fives because that's where that – most of those kids are being reported by medical personnel. So you got some capacity.

You have variability in that capacity relative to the levels of poverty. So we want to see whether or not that's related to those system attributes are related to how many kids come in and how long they stay. So to round up this picture on the system – on the system itself, we've got some other policy ideas in terms of adoption related issues. We are trying to get at both the – are there objective measures of the policy context. So for example there is a Ph.D. student at University of Washington who has looked at the content of state adoption statutes and the extent to which they explicitly exclude certain circumstances from the diligent recruitment efforts, right. So some states mirror the three conditions that are in the federal statute, some states enumerate lengthy criteria, really stunning how much variability there is and the expression of the exclusionary rules. Well, do states that have lots of exclusions get more kids adopted or not. Well, that would be – there would be an intervention there that you can test. If you want to speed things up then what do you got to do, as you got to expand on the list of exclusions so the people aren't hung up in the ambiguity of, well, this diligent effort really apply in this case or not. If the law is silent on it, maybe the ambiguity rules and you can't go forward. So I think we can begin to measure sort of concretely what – how the states various policy context. And now they are getting down to what do we think are system attributes that make a difference, measuring them adding to these models and then out of that I think you do come up with reasonable hypothesis about well, what kind of intervention at the county level would you introduce. I think we can be much more focused than we have been on that set of issues.

So I would be optimistic.

Speaker: And you like this because you strongly believe in context having effect, the problem I'm on doing GIS with data set analysis on the project my working at. It's only as good as the data you have on context and that should be 10 years old, 2 years old, 6 months old, these data, I mean, not every city, county is mapped very well on this multiple years of some data. Some counties or some cities you can get lots of – in the moment for instance data [indiscernible] [01:24:43] census data you can make the change. It seems like there needs to be kind of a good diagnostician when you are putting these models together but you can look at context in some counties well in others you can't because the data is just not going to be looked at...

Fred Wulczyn: Right.

Speaker: ...point in time for change.

Fred Wulczyn: Right. This is why we focused on 2000. Because we didn't – we could minimize that problem with the 2000 census data and get very good estimates – as good an estimate as you are going to find at this stage of the game to line with up the administrative data. So there it's like...

Speaker: Would you consider like ENSCA using a better data set and its like...

Fred Wulczyn: ENSCA is not a better data set in the sense that the spatial scale there is very problematic and you've only got 92 and you cannot go more granular. So one of the things that we are experimenting with is doing linking the ENSCA data to administrative data but not a person match but a probabilistic match where we randomly assign attributes of people based on priority distributions. So we are trying to figure out how to introduce and make something like ENSCA because the thing we don't have in this data are lots of micro level detail. We don't have – we don't know the income of the family. So it maybe that poverty matters as a matter of context but only if you are poor or only if you are not poor. But as an attribute of or the relationship between poverty and place depends on the poverty of the place that we don't know.

But I think again the idea here is to say here is a fairly substantial area of social research largely untouched in the child welfare literature and I would argue that untouched at our peril from a how – we don't have a lot of money to spend. We got to get better at spending the money we have in terms of targeting efficiency. And right now what you attribute to the individual level phenomenon of that are really at the community process level, you could actually spend money foolishly when you are living at a day and age when that opportunity is quickly evaporative.

Speaker: Is there enough preparation at the individual level and the asset to build family...

Fred Wulczyn: In some of the data sets we have there is yes.

Speaker: That would then be a better target for looking at family grant intervention...

Fred Wulczyn: Conceivably yes. Yep. Thank you. I guess that – it's a wrap. It's 3:30. Thanks for your time and attention.