

MCH EPI Conference

Plenary I: Measuring and Eliminating Racism and Racial Disparities in

MCH:

The Need for New Paradigms

December 8 – 11, 2008

JAMES COLLINS: Hey, good morning. Thank you very much for being patient, and I thank you Camara, it was an excellent presentation. Vijaya, I thank you also. It's tough following these ladies, I tell you. I could have them both speak for the whole time, and I think you'd probably going to learn a lot more from them, then from what you're going to see from me. But I'm going to, kind of, take you through my thought process in examining a tenacious problem in this country, namely the racial disparity and pregnancy outcome as measured by infant mortality and how we, kind of, came to the conclusion that racism is a big, big root cause of this.

This slide, you guys, know very well, infant mortality rate, to define infants death, which occur in the first year of life. A high rate signifies unmet health needs, and we see that African-Americans has a significantly higher rate than non-Latino whites. Mexican-Americans are doing very well, and actually as I was sitting here listening to the last talk, I was really drawn to what's going on with Mexican-Americans.

If I can just take two seconds to digress, their outcomes are very good as everyone probably knows looking collectively, but if you look at you U.S. born versus Mexican born, the ones who are born in the United States actually do worse than those who are born in Mexico. And, that's always been a public health enigma to those of us studying in this. We did a study where we teased out first generation versus second generation. And, this has been hypothesized that acculturation is a major risk factor for Mexican-Americans in terms of poor pregnancy outcome. And, one would assume if that was true is if you were here for a longer of period of time based on generational residence, that outcomes will get worse across generations. We found first generation people did very poorly compared to Mexican born people, but that subsequent generation, although the numbers were small, actually did very well, similar to the general white population. And, I must have spent months trying to write a paragraph for a paper to explain that, and I didn't explain it, but now I get it, three years, four years later, that maybe the second or third generation really are perceived as being white. They have assimilated.

Interesting digression back to what? We're looking at here, I'm looking at the black-white disparity, the vast majority of African-American and white infant deaths occur in this first 28 days of life, and that's defined as neonatal mortality rates, and this slide shows those rates for African-Americans in red and whites in yellow. And, we see that both groups have improved since the 1960s. And, this kind of gives you an indication that they both benefited from tertiary care. I mean,

that comes to neonatal medicines that means neonatal intensive care. Ninety percent of this improvement has been due to enhanced birth rate specific mortality, and very low birth weight preterm infants. Despite having such great rates, overall, mortality remains one of the scourges of our health care system because as we've heard in the opening remarks, birth rates remain a primary determinant, and those rates have not improved in over four decades. And, we see that disparity has also persistent. When I first started this research, I really thought it was going to be all driven by socioeconomic status. And, this slide was taken from a paper we published 19 years ago, painful reality that these data have not changed at all. And, there have been numerous subsequent studies that confirm the same findings. Namely as education improves for both African-Americans and whites, low birth weight rates come down to what you might expect.

With those college graduated women still have a greater to two fold risk of having a low birth weight infant if you're African-American compared to you're white. And also, for college graduated women who are African-American, their low birth weights actually exceed that for whites who didn't complete high school. Next, I thought it was going to all driven by prenatal care, and there have been a lot of great studies looking at this, it showed a very well, one published by Dr. Butterfield looking at women in the military, she still found a disparity. This slide here, kind of, really hit home again that it's not prenatal care by itself.

These are women who conceived with assistive reproductive technology, clearly a very high risk population, but also clearly a population who has access to the best medical care that we can provide today. Clearly a group of women who are extremely invested to having a good pregnancy outcome, but we still see disparities by every measure of pregnancy outcome: term low birth weight, largely growth retarded infants, preterm low birth weight infants, invertible birth weight infants less than 1500 grams, essentially all these women, all these infants are premature. We see the gap persists.

So, then we kind of thought, well, what is it that's driving this? And, we always hypothesize, that it is something about living in the United States, but you got -- you just can't say that, there's another big group of people out there who really believe that this is driven by a genetic predisposition. There's something intrinsically wrong with the population of African-Americans that puts them at risk for having a low birth weight or preterm infant.

So, we thought, well, let's take a step back, and let's have a group of women who come from African, who lives in the United States in the current era, and see what their pregnancy outcome is. If this is a genetic predisposition, we would expect that group to have a higher rate of poor outcome, because if you look at race from a genetic point of view, which does not exist, do not misquote me please. You'd expect them to have higher poor outcome given what their alleles are made off compared to U.S. born blacks. So we looked at three groups, and

these are low risk women, these are women who are college educated, who are married to college educated men, who at least acknowledge that they didn't smoke, didn't use alcohol, and they received prenatal care. And, we see that U.S. born blacks, the highest rate of poor outcome, but the African born blacks, we have approximately 3,000 of women over a 15-year period in the City of Illinois, very low birth weight rate was very similar to that of the U.S. born white population.

So, we did another thing, well, let's see how long they have to be here before things start going poorly. So, you have a group of women who come here, well have an advantage, there is something called a selective migration, only the most healthy women come, let's have them come here, they deliver a daughter, that daughter grows up in the United States, 20 or 30 years later, she gets pregnant, has a child, let's see if that low birth weight rate advantage that her maternal grandmother had still persists across generations. And we found, that it did not. Among married women, and we look at four groups. The group that we're most concerned about are the women who were themselves born in African or the Caribbean, their daughters had a low birth weight rate, moderate low birth weight rate of about six percent, but their granddaughters, again, one generation, moderate low birth weight rates have doubled.

Clearly, genes don't, I shouldn't say it's so cavalierly, but I think it's true. They just don't happen that quickly. There is something about living here that just

starts this immediately in one generation. What is it? Michael Lou, and his colleagues came out with this life course conceptual model. And, we look for African-Americans and whites, we see that we all have reproductive potential. It's higher for whites, because they have more of the green arrows, and more of the protective factors would start improving their pregnancy outcome even before they deliver prenatally. African-Americans experience more of the orange risk factor -- the orange arrows or the risk factors, and those risk factors disproportionately affect the African-Americans, and they make it so they limit reproductive potential. For me, this conceptual model fit, but how would you put this into the context of race?

Dr. Jones wrote few years back, race is not a biological construct that reflects innate differences, but a social construct that precisely, and I love that word precisely captures the impacts of racism. So, in that one generation of a woman experiencing racism, that negatively impacts her birth outcomes. How do we measure this? We designed a study and we posed a question, to what extent do African-American women's lifetime exposure to perceived interpersonal racial discrimination are risk factor for preterm very low birth weight?

We performed a case control study, looked backwards at three hospitals in Chicago, cases where very low birth weight, mothers with very low birth weight preterm infants controls, where a non-low birth weight term infants, and we paid \$10 to encourage people to participate. We experience -- we administered a

questionnaire, which was composed of two sets of questions, one set from Nancy Krieger showed that lifetime exposure to racial discrimination in five domains, getting work, at work, at school, getting service in public arena such as a restaurant or a store, for getting medical care. For the women who were employed, we asked an additional 20 set of questions that asked about questions about racism at the workplace. After data collection, responses were dichotomized into none, which was defined as none or less than once a year, regularly which we defined as few times a year, few times a month, at least once a week, or nearly every day, we looked at traditional risk factors for poor outcome, and we performed logistic regression analysis.

This, kind of, summary slide looks at those two groups of women who delivered very low birth weight infants compared to non-low birth weight infants, and we see that moms who delivered very low birth weight infants were almost twice as likely to have had experienced racial discrimination throughout their lifetime in one or more domains. When we go to three or more domains, we also see a disparity, almost 20 percent for the very low weight preterm births compared to about 8 percent for the non-low birth weight rate term infants. We looked at it according to maternal age. And, we see that among teenagers, we didn't see a difference, however, among women ages 20 and above, we start to see a difference, the asterisk signify statistically significance. We didn't have enough women greater 30 than to reach statistical significance. We looked at it by education, consistent with the age phenomena, we didn't see it for women who

didn't complete high school, but the association was actually stronger some on college educated women. We see if it was any way different by prenatal care, the final trimester of initiation of prenatal care, and we see that in both groups of women, those who received inadequate and those who received adequate prenatal, there is still difference with very low birth weight births more likely those mothers who have experienced racial discrimination in one or more domains during their lifetime. Among cigarette smoking, among nonsmokers, we still see a difference. Social support, we also found that it was present when social support was still present. (Inaudible) logistic regression, the unadjusted odds ratio was 1.9, we can control for the things that we can't control for, age, education, marital status, prenatal care etc. Odds ratio didn't change at 2.3 for one or more domains, for three or more domains, odds ratio of 2.7, controlled for what we controlled for, nothing really changed, odds 2.6.

For the two thirds of women who are employed, most of them were employed as cashiers, clerks, or teachers, we asked them additional set of questions, and this just kind of gives you a flavor for the questions that we posed. Because you are African-American, you were assigned jobs no one else would do, odds ratio 1.7, whites often assume that you work in a lower class job than you do and treat you as such, odds ratio 2.3. You were treated with less dignity and respect than you would be if you were white, odds ratio 2.0, you are watched more closely than others, because of your race, because you are African-American, you feel that you have to work twice as hard, odds ratio 1.9.

This kind of summary slide, kind of, puts this into different categories and we see that for the one or more group, very low birth weight moms, excuse me, moms who had very low birth weight infants more likely to experience racial discrimination on a regular basis at work compared to non-moms who delivered non-low birth weight infants, three or more incidence comes down for both groups, but we still see a difference, and we still had a group of women who experienced seven or more times on a regular basis that we lost statistical significance, you still see a difference. So, this gives us, again, a rough idea, looking at data suggesting that racial discrimination as described here is associated with poor pregnancy outcome.

At the same, our study was published, a group in Boston, looking at different data set, using a cardio study and found very similar results. They actually also interviewed white women, so they actually -- they could compare and actually calculate what impact racial discrimination has on the disparity, and they found in their cohort the un-adjusted odds ratio of low birth weight for African-American compared to white women was approximately four. When they controlled for racial discrimination, the odds ratio was cut in half to two. When they controlled for the addition routine variables of poor outcome, the odds ratio essentially didn't change at all, still approximated 2.4. Again, suggesting that racial discrimination is a risk factor for poor pregnancy outcome.

Spoke about the orange arrows following up on prior presentations. I just want to give you some idea, well what impact the green arrows? What does white status bring you? The guy who lives next door to me, 28 years old, dropped out of Northwestern after his third year, lives with his girlfriend, his father bought him the house next to us, you know, I've got my lawn mower from Sears that I've had for 14 years. He's got the new Toro, you know, my kids, I've got four kids, I play football with them, but the football was lost, that's it. You want another football, buy it yourself, he buys them a football, you know, nice guy, and it just kind of hit me.

Positive income incongruity is what we have described over 10 years ago, and that's what this young man is experiencing. We defined it as medium family income of mother since his track resident, which is one standard deviation above that of non-Latino whites with the same number of years of education, and marital status. We thought it was a proxy measures of societal advantage not captured by individual variables, i.e. it was a measure of generational wealth.

Not surprising in Chicago, less than two percent of African-Americans experienced positive incongruity, but almost 14 percent of the general white population experienced positive income incongruity. So, we thought, let's see what association this has with pregnancy outcome. Among those who did not experience positive income congruity, we see a racial disparity, and very low birth weight rates, very similar to the general population, 3.5 percent for African-

American, 1 percent for whites, for those who experienced positive income incongruity independent of race, very low birth weight rates declined. One percent for African-Americans, down to 0.5 percent for whites, clearly the disparity persists, but it gives you an idea that generational wealth does have an impact above individual measure of education and marital status.

I had to steal the slide because it's such a good slide. Racism is a big component, it's a big root cause, but there are whole other things, which are intimately related to it as this slide shows, and we have to address all of these if we're going to start to really get out the disparity, because as she had pointed out very clearly, disparity is of a tip of the iceberg.

Michael Lou and his colleagues have come up with a 12-point plan in California to try to address and eliminate this disparities and I thought I would leave you with these 12 points. The first four points really get beyond us, looking at prenatal care, it gets beyond looking at medical care from nine months during pregnancy. I could actually say it gets beyond looking at what I do which is taking care of infants in the neonatal intensive care unit once they're born, but really let's look at taking care of women during their whole life in terms of providing optimal care. The next four things really look at getting beyond, looking at individual risk factors, but really look at what affect does family have, what affect dose community have, clearly neighborhood, environment has a huge impact. The last four things, get at the stuff that makes it tough, but this is really the root cause of

social inequities -- and social inequities are the root cause of the disparities. And, until we get at some of these things, unfortunately, I believe the disparity is going to persist. Thank you very much for your attention.