Better Beginnings

A Publication of the Perinatal Network of Monroe County January 2009

Musings of the Executive Director

In May, 2008 the Perinatal Network and our good friends at the Finger Lakes Health Systems Agency sponsored a conference on Racial Disparities in Health. We intended it to be an opportunity for the community to work together to devise a plan to address the causes of racial disparities – in particular disparities in birth outcomes. The conference was a great success in that it engendered as much light as heat, started difficult conversations, and opened new thought processes about the social determinants of health. But a plan… not so much. There was just too much that people had to work through before they could turn their minds to positive community action.

It was clear to us then that this was a much bigger project than we had envisioned and would take more time and effort from all of us. Out of this came our commitment to a series of meetings: Racial Disparities in Health – a Life Course Perspective. We were (and are) so convinced that taking a life course health development perspective is the **only** way to make real progress in improving birth outcomes and that layers of racism continue to drive very different health development trajectories for people of color that we completely revised our agency work plan. We went to our State and Federal funders and asked them to support this series instead of the education programs we originally planned. We were gratified that the response was not only agreement, but enthusiasm that we were tackling this subject.

There are actually six meetings in the series – an introductory meeting in September at which we laid the groundwork with a review of the concept of life course health development and the reality of racism in our community; then, a series of four planning meetings. Finally, there will be a meeting in the spring (date to be determined) at which we will unveil the action plan to the broader community, invite participation, and celebrate. I hope you will be there to celebrate with us.

As Wade Norwood and I were launching this effort (which we likened to leaping off a rather high cliff without any certainty about what lay below), we acknowledged the difficulty and wondered aloud what might come out of these planning sessions. So what have we accomplished? Let me just share with you a few comments from the evaluation sheets for the last meeting:

"I see minorities differently – this should be a community wide endeavor."

"This retreat provided a framework for me to interact deeply and meaningfully about race with African-Americans – this is the first time ever!!"

"I'm almost 60 and this has been one of the most powerful experiences I've ever had!"

"Being able to discuss these issues without feeling uncomfortable."

"When I realized that I could claim poverty, but cannot claim the African American experience. So I need to work aggressively to integrate understanding."

"Thanks for all your hard work and for opening our eyes."

I am humbled and grateful that so many people (nearly 100 in all) were willing to give not only their time, but their hearts to this effort. We have much work to do to turn these ideas into actions. But we know we will succeed because the hard work of opening minds and hearts to the truth has already started and it is contagious.

Towards health equity in Monroe County,

Patricia Brantingham

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Is Racism a Reality Today?

As difficult as it can be to talk about, race matters. Or more accurately, racism matters. Race, socioeconomic status, and health are inextricably linked. We cannot eliminate disparities in health until we address disparities in socioeconomic status and racism.

We all know about the institutionalized racism of slavery and we acknowledge the racism of Jim Crow. But we may need reminding how near we are to legal manifestations of racism. A very recent article in a respected journal criticized the conclusion that race is a cause of disparate health status. After all, he said, that was all 40 YEARS AGO. Ancient history?

To understand the present day impact of racism we need to understand the three levels at which racism operates.

Institutionalized racism

First, there is the societal level – institutional racism that is the lingering heritage of racist policies in virtually every area of life including:

Employment
Housing
Education
Health care
Income
Wealth
Criminal justice

Most of these policies were legal until very recently. If you were born before 1954, institutionalized racism in our educational system was legal in your life time. If you were born before 1964, institutionalized racism in employment was legal in your life time. If you were born before 1967, institutionalized racism in our marriage laws was legal in your life time. If you were born before 1974, institutionalized racism in banking was legal in your lifetime.

But do these policies affect us today? Legal discrimination in employment prevented how many thousands in this community from earning enough to save and invest, to build the wealth that would allow the next generation to go to college and to feel economic security. Legal discrimination in housing resulted in segregated neighborhoods that persist. And those segregated neighborhoods lead to segregated schools – by some accounts schools in America are more segregated now than they were before Brown V Board of Education.

And for those who do beat the odds, get the education, move out of the old neighborhood, get good jobs, our bodies still have long memories. The stress of the mothers is visited upon the children unto how many generations?

Individual racism

Changing policies with the force of law is necessary but not sufficient. Even when institutional practices change, interpersonal practices often do not. And here is where that technical mobility is something of a double edged sword – segregated neighborhoods may be more dangerous in some respects, but they may also be more secure in terms of exposure to individual racism.

This level of racism is more stressful in ways because it cannot be predicted. Which is worse – knowing where the tiger is and how to manage your life to avoid it, or thinking the tiger has been eliminated and then being confronted with it unexpectedly and randomly?

It is also this level of racism that is most difficult for those of us not subject to it to appreciate. White privilege is never so protective as when it shields us from the very knowledge that we are privileged. So it is easy to think that discrimination is rare and becoming ever more so. The evidence tells us otherwise. Individual racism is manifest in housing, banking and employment decisions; racial profiling by police; harsher sentencing for minority defendants; lower educational expectations for minority students; and even unequal medical treatment.

For example, a National Community Reinvestment Coalition Study in 2007 found that:

- African Americans and Latinos were questioned about their credit over 32% of the time; white shoppers 13% of the time.
- Fees were discussed 62% of the time with white testers 35% of the time with "protected testers."
- Fixed rate loans were discussed 77% of the time with white testers, 50% of the time with African American and Latino testers.

Internalized racism

But the most powerful form of racism is that which is internalized, creating a battle between the natural impulse of all people to believe in themselves and the adopted belief that such self-value is unmerited. The stress of fighting that unspoken, unacknowledged battle day after day must surely make us sick. Studies have linked self-hatred based on race to lower school performance, depressive symptoms, substance abuse, dropouts, and other risk behaviors. What policy will ever be powerful enough to convince little girls that their black dolls are as pretty as the white dolls?

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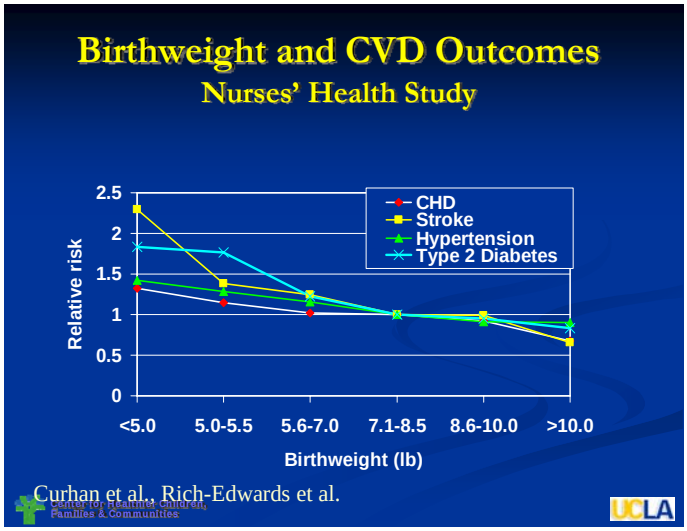
Life Trajectories

The conventional view (and the conventional medical model) presents the newborn infant (at least those not seriously ill at birth) as almost a blank slate, with future health dependent on future causes. The life course health development perspective teaches us that the womb is an active environment that interacts with the fetus at the genetic level in ways that persist for a lifetime, and even into the next generation.

The impact of low birth weight (and in particular the sub-set of low birth weight that results from intrauterine growth restriction) is astonishing in its breadth. The long-term Nurses' Health Study tracked the age-adjusted relative risk of a set of chronic health conditions and found a nearly perfect correlation between birth weight and chronic heart disease, stroke, hypertension, and Type 2 diabetes.

Chart 1:



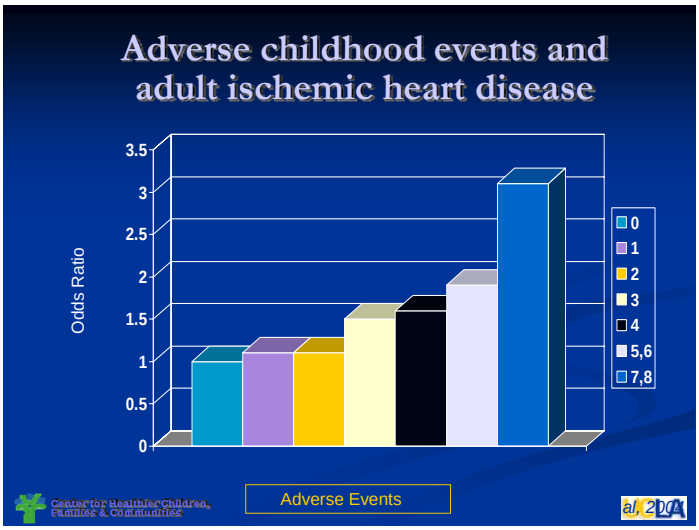
A long-term study revealed a near-perfect correlation between birth weight and chronic disease

Other studies have also demonstrated that it is not only the very low birth weight babies who suffer later poor health. A study of 707 women with normal pregnancies measured the thighbone of fetuses at 18, 24, 28, and 38 weeks of pregnancy. The children born to these women were tracked through age six. For every 2.6 millimeter (one tenth of an inch) deviation from the typical thigh bone length *in utero*, systolic blood pressure was about two points higher. The effect was first seen at 24 weeks into the pregnancy. The impact of early high blood pressure accumulates over the lifetime and may be as significant a cause of adult disease as smoking.

Trajectory Shifts

But it is clear that the life course trajectory is not fixed at birth. Experiences throughout life continue to modify the trajectory, for good or ill. Dr. Neal Halfon at the Center for Healthier Children, Families, and Communities at UCLA reports that adverse early childhood events predict not only adult depression and substance abuse (which is somewhat intuitive), but also predict adult ischemic heart disease.

Chart 2:



Early childhood events also predict later disease

Complex Mechanisms at Work

Dr. Halfon posits not a single pathway (either programming or environmental), but a complex interaction of biology and environment with a foundation in social inequity. Improved health (maternal, perinatal, childhood, or adulthood) requires an equally comprehensive shift in more than just medical care. In the life course health development model, social policy, and economic policy, indeed are health policy.

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The Medical System in the LCHD Paradigm

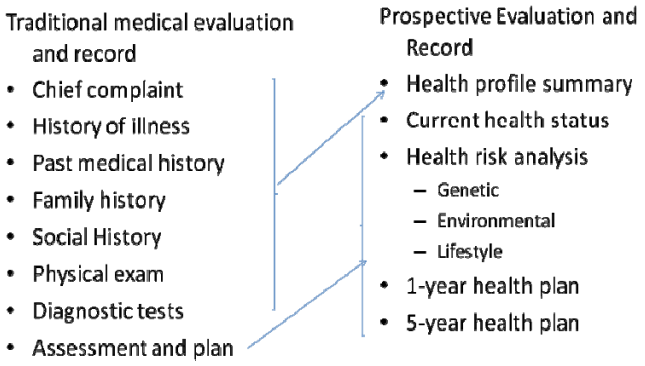
Our traditional approach to health is to treat each stage of the life cycle and each disease as if it existed in a separate box. The solution to poor birth outcomes was supposed to be early prenatal care – indeed that is still the standard requirement for federally funded programs. Then we monitor the birth to see how we did. Children are treated by pediatricians who may know little or nothing about the pregnancy that produced their patients. They identify symptoms and prescribe treatments.

As we mature into adulthood, we transition to a different set of health providers, many of whom are doing a better job of encouraging healthful behavior as preventive measures. But few address environmental risk factors and fewer still trace risk factors back to the early environment of the womb. So when a women becomes pregnant, the doctor will certainly look for existing health problems and will encourage healthful behaviors. The best providers will screen for environmental stressors such as domestic violence, second hand smoke, and for behaviors such as alcohol consumption. But few will anticipate the likely development of health problems based on that woman's experience in the womb or life time accumulation of environmental and behavioral stressors.

In this traditional model, information is disconnected and therefore medical care is disconnected. When the medical system is structured to focus on treatment not prevention, we lose the opportunity to break the intergenerational cycle of poor health.

The New Paradigm

So what would the medical system look like under the new paradigm? On the left is the traditional structure, with the emphasis on current illness diagnosis and treatment. On the right is a new emphasis on deep and broad health risk assessment and forward planning.



What would have to be in place to implement such a model?

First, we would need to know how to do true life span health risk assessments. We would have to have a mechanism for early detection, which means that people are not waiting for symptoms to access medical care. Prevention requires intervention in the medical, environmental, and behavioral domains. An individual health plan requires time and open, clear and honest discussion between a patient and a provider. A life course health delivery system would take down the silos and integrate health care across the life span as well as across medical disciplines. And effective reimbursement means simply that we apply new goals – since you always get what you pay for, pay for what you want to get.

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Programs and Funders

COMPREHENSIVE PRENATAL—PERINATAL SERVICES NETWORK NYS Department of Health, Bureau of Women's Health

HEALTHY START ROCHESTER Federal Health Resources and Services Administration

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOMENT—Subcontractor to the University of Rochester for "community Partnership for Breastfeeding Promotion and Support: Creating System Change"

STAYING IN THE RANGE—Greater Rochester Health Foundation

COMIENZO SANO—Rochester Primary Care Network

Stress—Friend and Foe

The story of stress is well known: the body reacts to stressful situations by pumping out hormones and other chemicals to enable us to fight or flee. When we get out of range of the tiger, or the final exam, or whatever is causing the stress, the body settles back down again. This process of maintaining apparent stability is called allostasis. But what happens when we can't get far enough away from the tiger… when we are constantly afraid because the tiger is nipping at our heels?

How the Body Handles Acute Stress

When the body is challenged by either physical or psychological/emotional threats, the brain activates the autonomic nervous system (ANS), the involuntary system of nerves that controls the output of two hormones, cortisol from the adrenal cortex and adrenalin from the adrenal medulla. These two hormones and the activity of the ANS help us cope: the ANS and the adrenalin keep us alert by increasing our heart rate and blood pressure and quickly mobilizing energy reserves. Cortisol works more slowly, helping replenish energy supplies and improving memory. Another aspect of cortisol action is called "containment." The initial, first line response to many noxious or pathogenic agents is containment by circulating levels of cortisol. This is why we take corticoids for an inflammation or skin irritation.

Chronic Stress Response - Too Much of a Good Thing!

The way our bodies work presents us with a paradox: what can protect can also damage. This is called "allostatic load." In the face of repeated or chronic stress, the body loses the ability for self-regulation so you can turn it on, but you can't shut it off. Chronically elevated levels of cortisol start to down-regulate the glucocorticoid receptors in the brain leading to the loss of negative feedback. Animals and humans who are chronically stressed have higher circulating levels of stress hormones; when they are exposed to some natural or experimental stressors, they put out much more CRH and cortisol than normal.

There are consequences for many of the body's systems. For our metabolism, the overactivity of the ANS and increased cortisol secretion produce elevated levels of sugar in the blood. If prolonged, what can result is a rise of insulin, leading the body down the path to type 2 diabetes. Elevated levels of cortisol are also linked to gradual demineralization of bone.

For the cardiovascular system, the elevation of ANS activity, combined with hyperglycemia and too much insulin, promotes both hypertension and harmful metabolic conditions. This one-two punch accelerates hardening of the arteries.

While acute stress actually improves our brain's attention and increases our capacity to store important and life-protecting information, chronic stress dampens our ability to keep track of information and places. Chronic stress does this by impairing excitability of nerve cells and by promoting atrophy of nerve cells in the hippocampus, a region of the brain that is important for spatial and verbal memory.

Acute stress helps the immune system handle a pathogen by causing immune cells to move out of the bloodstream and into tissues where they are needed. Chronic stress, however, impairs not only the ability of the immune system to relocate immune cells but also the ability of those cells to do their job of recognizing and responding to the pathogenic agent.

Physiological Impact of Stress	
Stressed	**Stressed Out**
Increased cardiac output	Hypertension and cardiovascular disease
Increased available glucose	Glucose intolerance and insulin resistance
Enhanced immune functions	Infection and Inflammation
Growth of neurons in hippocampus and prefrontal cortex	Atrophy and death of neurons in hippocampus and prefrontal cortex

Maternal stress is a particularly compelling example. If mom is stressed out during pregnancy, her brain and placenta put out stress hormones, CRH, ACTH, cortisol and catecholamines (adrenaline). These stress hormones can cross the placenta, and bathe the baby in stress hormones while the baby's neuroendocrine and other systems are developing, priming the baby's hypothalamic-pituitary-adrenal axis with stress hormones. There are two areas of the fetal brain that are particularly vulnerable to the cytotoxic effect of stress hormones: the hippocampus and the amygdala. Think of the hippocampus as a brake pedal on the hypothalamic-pituitary-adrenal axis. Think of the amygdala as the accelerator pedal. Prenatal stress increases the release of glucocorticoids from fetal adrenal glands, which can down-regulate glucocorticoid receptors in the hippocam-

Community Plan

The Perinatal Network and the Finger Lakes Health Systems Agency embarked on this journey with the intention of facilitating a genuine community action plan. Our two agencies come from different starting points, but converge on the central issue: the impact of residual and often unspoken but very real racism on the health of our community. From the Perinatal Network, we brought an understanding of the cause and consequences of poor birth outcomes, and from the Finger Lakes Health Systems Agency, we brought an understanding of the historical and current reality of race in America. Together, we have learned how these two perspectives explain the persistence of racial disparities, not just in birth outcomes, but in life course health trajectories.

We structured a series of meetings around the health issues that are both cause and consequence of poor birth outcomes: diabetes and associated obesity; hypertension and cardiovascular disease, infection and inflammatory diseases, and low birth weight and premature delivery. At each of four planning meetings, we worked in small groups using an appreciative inquiry process to identify what we knew from our own experiences that worked to promote good health in the face of race-based challenge or privilege.

We then asked participants to use what they learned from the small group discussion to identify an action that would lead to the elimination of racial disparity in the condition under discussion. The ideas were offered to the large group and participants were invited to vote for an idea by joining the sponsor to develop the idea into an actionable plan. Over the course of the four meetings, 22 ideas gained sufficient support to be developed using a classic logic model format. Following each meeting, PNMC staff followed up on the work done by the teams to ensure that we understood the concept and the implementation plan. We then attempted to identify any current community initiatives with the same objectives or related activities so that we could be sure we leveraged existing resources. We edited the logic models with this additional information and fed the aggregated logic models back to the participants at the subsequent meeting.

We have committed to the series participants that we will now rigorously follow up on the ideas that have been generated. In most cases, the ideas require the involvement of individuals and organizations who were not in the meetings; in many cases they require coordination with existing community initiatives. The operating principle for our work is that only ideas that have commitments of the needed resources will be included in the initial iteration of the community action plan. PNMC and FLHSA staff will reach out to the individuals and organizations whose involvement is critical to engage them in this work. Some will be ready to join us, and others will not. This means that some ideas will need to wait, but none will be forgotten. When we have completed these negotiations, we will produce a draft consolidated action plan for review by the series participants. When that document is ready, we will invite the entire community to join us for a celebration at which we will introduce the plan and invite broad and deep participation in its implementation.

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Stress Cont.

pus, and at the same time up-regulate glucocorticoid receptors in the amygdala. So you are making the brake pedal less sensitive to negative feedback, and making the accelerator pedal more sensitive to positive feedback. You end up with a fetus with a hyper-reactive HPA axis. This could cause the baby to have higher stress reactivity later on in life – when she is exposed to stress, she puts out a lot more CRH and cortisol that could put her at greater risk for preterm labor when she becomes pregnant 20 or 30 years later

We need a long-term perspective that addresses the causes of stress as well as the response to it – a response that can be helpful or hurtful. It is time to consider stress management as important a skill as reading and writing.

References:

"Life Course Perspectives on Improving Pregnancy & Birth Outcomes", James Collins, Jr, MD, MPH, Associate Professor of Pediatrics, Division of Neonatology Northwestern University Medical School and Michael C. Lu, MD, MPH Assistant Professor, Department of Obstetrics & Gynecology David Geffen School of Medicine at UCLA Department of Community Health Sciences UCLA School of Public Health

McEwen B.S. Protective and damaging effects of stress mediators. New England Journal of Medicine 1998;338:171-179

Pathways to Disarm Stress

In our focus on the antecedents of poor birth outcomes in racism-generated stress, there is danger that we succumb to despair. We cannot let that happen. There are human solutions to human problems. It may be useful to remind ourselves of a simple (not to say easy) model for protecting pregnant women from stress.

Eliminate the Source

Of course, eliminating the source of the stress is the most effective way to protect women from its damage and there are some ways in which we can do that. As a society we have already taken steps to address many public policy issues such as access to housing and jobs. Other United States public policies, such as minimum maternity leave, put our country at the bottom of most lists of national health rankings. There is more we can do.

At the organizational or institutional level, practices can be changed absent legal requirements. Leadership by those who have the power to change their practices may be forthcoming when these leaders are given sufficient information and understanding and a healthy sense of enlightened self interest. And when community leaders take action, the impact is felt beyond the walls of their own organizations – their public positions shift expectations (including among job seekers) leading to a shift in social norms.

Ultimately, social norms must change to eliminate the interpersonal level of racism. It may never be possible to eliminate hate and suspicion in the human heart, but it is possible to create a climate in which certain behaviors would be so embarrassing to the person inclined to engage in them that they refrain. Social norms are influenced by the examples we set in our own behavior and by our willingness to speak when we witness hurtful behavior. If there is sufficient ground prepared, social marketing campaigns can contribute to changes in social norms as well (although we have to be careful not to rely on such campaigns to do the work alone, or in the short time that those paying the bills usually expect).

Protective Barriers

We don't have to wait for that ultimate solution. There are ways to create a protective barrier between the source of the stress and the individual. At the community level, we can take steps to alleviate the consequences of poverty and powerlessness with a zone of protection around pregnant women that ensures that no pregnant woman will be homeless, or have her heat cut off, or lack transportation to basic necessities. Some such protections must be done at the public policy level, while others are available to institutions and organizations, and others are available to each of us as individuals.

A group in Los Angeles surveyed pregnant women to learn what could be done to relieve the stress during pregnancy. In response to what they learned they created a program called "100 Intentional Acts of Kindness for Pregnant Women." What would such a program look like in Rochester?

Coping Skills

We will never eliminate all stress (and as noted in the article on page 5, some stress is healthy, even necessary). What impact might we have on the entire community's health if we taught every single individual effective stress management techniques as an integral component of every school, church, or medical provider? Such skills can be taught, and they are sufficiently effective that we use them at our Healthy Start Center as a precursor to smoking cessation programs. Is there anyone anywhere who would not benefit?

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Life Course Framework:

Think Differently!

- Developmentally
- Population and upstream determinants of the outcomes we want to achieve
- How to shift population risk curves – not just the individual level
- Alignment, connection, networking strategies
- Change the culture of the system we work in
- Frame health in terms of its life long impact

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Upcoming Events……

Date	What it is	Who it is for	For more info contact:
Feb 12, 2009	Smoking Coalition Meeting	All current and prospective members	Jacqueline Procope-Isaacs
Mar. 10, 2009	Perinatal Mood Disorders Coalition Meeting	All current and prospective members	Jacqueline Procope-Isaacs
Mar. 19, 2009	Smoking Coalition Meeting	All current and prospective members	Jacqueline Procope-Isaacs
Mar 26, 2009	Spring Networking Session	All health and human service providers	Jacqueline Procope-Isaacs