The Seattle Mandate: An International Call-to-Action for the Prevention and Treatment of Preeclampsia and Eclampsia

July 8, 2003

Hypertensive diseases of pregnancy – such as preeclampsia, eclampsia, pregnancy-induced hypertension (PIH) and HELLP Syndrome – are a major and common global health concern, a problem to all women of childbearing years, in all countries, with long term health implications for the mother, infant and family. They are a leading cause of maternal and infant illness and death; prematurity (and complications resulting therein); and affect at least 6.6 million women, and their infants, every year. Estimated maternal death statistics, using eclampsia alone calculate the maternal death from this disease conservatively at 40,000 to 50,000 women a year. Deaths from preeclampsia, due to cerebral bleeding and other complications are equal to, or greater than those from eclampsia. The loss of infants and neonates is greater still. All told, over 150,000 women and children are lost each year due to this disease, millions experience trauma, injury and loss.

Representatives of global health programs, public health organizations, researchers and patient advocacy organizations from throughout the world met with preeclampsia experts under the aegis of the Preeclampsia Foundation, the International Society for the Study of Hypertension in Pregnancy, Action on Pre-Eclampsia, and the HELLP Syndrome Society in Seattle, Washington, USA, on April 4-6, 2003. They unanimously agreed on the following five recommendations, and urged their presentation in all countries and health programs throughout the world for implementation:

1) Goals & Standards
Set and achieve basic goals and standards of perinatal, postpartum and intrapartum care.

2) Advocacy & Partnership
Secure commitment and cooperation from all organizations with maternal health influence including public advocacy, governments, non-governmental organizations, and research institutions.

3) Patient Education & Public Awareness
Raise patient and public awareness about the disease, warning signs and symptoms, and what appropriate care includes.

4) Research
Increase research funding into basic, interdisciplinary and applied research.

5) Tools & Technologies
Ensure access to appropriate and life-saving tools and technology.

We, therefore, proclaim that preeclampsia and other hypertensive diseases of pregnancy are worthy of global action in these five priority areas.
These are the five priority areas that require resources, the actions and the agendas of global health programs, policies and researchers. It is within the power of national governments and the health department to create conditions that achieve a major reduction in this heavy burden of disease and death. Countries should give formal recognition to the preeclampsia/eclampsia problem and deploy resources for its solution.

Adopted by a unanimous vote at the 1st meeting of the International Preeclampsia Summit, Seattle, Washington, USA 4-6 April 2003.

The Seattle Mandate: The Burden of the Disease

Whereas the burden of the disease is immense:

- High blood pressure complicates 10% of all pregnancies or 13.2 Million births a year.
- Preeclampsia/eclampsia threatens five to eight percent of all pregnancies or up to 8 Million births a year.
- Hypertensive diseases of pregnancy, particularly preeclampsia and eclampsia, are a leading cause of maternal and infant illness and death
- Eclampsia alone accounts for 40,000 to 50,000+ maternal deaths a year.
- Experts agree over half of the maternal deaths due to preeclampsia/eclampsia are from preeclampsia – these numbers are not uniformly included in maternal mortality statistics.
- The physical toll of preeclampsia/eclampsia to a woman can include: placental abruption, hemorrhage, kidney, liver, heart, brain, ocular and lung damage and failure, stroke, blindness, paralysis, seizures, and death.
- The physical toll of preeclampsia/eclampsia to an infant can include: prematurity and the complications thereof, intra-uterine growth restriction, and death. Infants whose mothers have had preeclampsia have an increased risk of having preeclampsia when they, or a spouse, bears children, and are at an increased risk of cardiovascular disease and hypertension.
- Preeclampsia is responsible for 15% of premature births
- Globally, 12.4% of infants born to mothers who have had preeclampsia will die within their first month of life.
- Preeclampsia is hereditary – women whose mothers, sisters, or grandmothers have had preeclampsia stand a two to five-fold increased risk of having preeclampsia themselves.
- Preeclampsia is increasing. In the USA, identification, and/or incidence of the disease itself has increase by 40% in the past decade.
- Preeclampsia unveils long-term health consequences for the women. Recent studies show that women who have had preeclampsia are 2.6 times more likely to die within twenty years of cardiovascular disease than women who have not had preeclampsia.
- Preeclampsia is a leading cause of infant and neonatal death—conservatively 300,000 such deaths worldwide.
The Seattle Mandate: The Call for Action

Whereas the actions of the global public health systems are inadequate

- There is no universally agreed on standard of care for the diagnosis and treatment of preeclampsia
- Many countries do not have even basic tools to implement known interventions such as checking blood pressure, testing for proteinuria, and administering life-saving medications.
- Preeclampsia advocates operate on a combined annual budget of less than $1 Million USD. Less than 1/3 of that is the USA. This is the only public awareness and advocacy money spent on this disease, the majority of it raised privately.
- There have been relatively few multi-centered randomized trials to investigate promising interventions.
- While some women with preeclampsia are prescribed medications, studies funded by pharmaceutical companies for preeclampsia are virtually non-existent.
- As greater and greater resources have been put into saving the lives of micro-preemies—a proportionately smaller and smaller amount of money has gone into researching the cause of these seriously premature infants.
- According to the World Health Organization, in the USA, perinatal diseases, to which preeclampsia/eclampsia is a major contributor, ranks as the second lowest NIH-funded group of diseases in the whole field of medicine when comparisons take into account disability adjusted life-years (DALYS) lost due to each disease.
- Preeclampsia/eclampsia are leading causes of long and short-term disability throughout the world.
The Seattle Mandate: The Five Priority Areas

1) Goals & Standards

*Set and achieve basic goals and standards of perinatal, postpartum and intrapartum care.*

Basic prenatal and perinatal care can circumvent serious outcomes in pregnancy. It is essential to develop and disseminate basic standards of care, appropriate best practices, practical guidelines and training for all health care providers. Programs to provide guidance and training need to be developed where they do not exist, and supported where they do. Elevate basic standards of care in all areas that have the means and technology.

2) Advocacy & Partnership

*Secure commitment and cooperation from all organizations with maternal health influence including public advocacy, governments, non-governmental organizations, and research institutions.*

Cooperation between non-government organizations, academicians, clinicians, health services systems developers, and advocates is essential if we are to accelerate discovery and implementation. An annual International Preeclampsia Summit should be held, in rotating locations, to drive partnerships, facilitate the cross-pollination of ideas, share best practices, and broaden the audience for this agenda.

3) Patient Education & Public Awareness

*Raise patient and public awareness about the disease, warning signs and symptoms, and what appropriate care includes.*

Education of women and their families and of health care professionals can have a significant impact on the identification of the disease. Appropriate materials should be made available to both women and their health care providers in order to educate them about the signs and symptoms of the disease. Empower and educate patients and families with culturally appropriate tools, such as visual aids about the signs and symptoms of preeclampsia/eclampsia. Drive public awareness around the value of prenatal and perinatal care, the signs and symptoms of the disease, and the impact of the disease.

4) Research

*Increase research funding into basic, interdisciplinary and applied research.*

Understanding the disease is essential to the management, screening, and potential prevention of it. Research funds should correlate to the social and economic costs of the disease. Understanding the etiology and pathogenesis is fundamental to improving prevention through prediction. Funds should be directed to integrated basic and applied research in the areas of knowledge, technology, and health systems strategies. Interdisciplinary research should be encouraged.

*The International Preeclampsia Summit was made possible by a generous grant from the Bill & Melinda Gates Foundation, the support of Action on Pre-Eclampsia, the Preeclampsia Foundation, the HELLP Syndrome Society and the International Society for the Study of Hypertension in Pregnancy.*
5) **Tools & Technologies**

*Ensure access to appropriate and life-saving tools and technology.*

Effective interventions for preeclampsia and eclampsia exist and should be made available in areas where there is adequate training, staffing and technology to support and monitor their use. Most specifically, MgS0₄ (magnesium sulfate) should, at a minimum, be made available to all clinics that successfully completed the World Health Organizations’ Magpie Trial.

Additionally, technologies, such as sphygmomanometers (both automatic and manual), proteinuria dipsticks, visual aids, patient education programs, should be made available where appropriate.

Researching, monitoring and studying commonly used medications such as antihypertensives to control blood pressure or diuretics to control fluid retention drugs should be a high priority. In addition strategies, such as vitamins and mineral supplements, and the potential benefit of low-dose aspirin prophylaxis for some women should be urgently explored. The availability of the best oxytocic agents and their safe use to induce labor which terminates the preeclampsia illness is also a key issue for research, especially in the third world. Establishing how interventions of proven benefit can be effectively implemented should be a prime target for health services research.

*Investments now will earn great dividends in the reduction of human misery and in massive savings of human and material resources.*

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