### **Epidemiology of Critical Illness in Pregnancy**

Sharon Phelan MD, Critical Care Obstetrics 3<sup>rd</sup> Annual Critical Care Symposium May 4, 2016

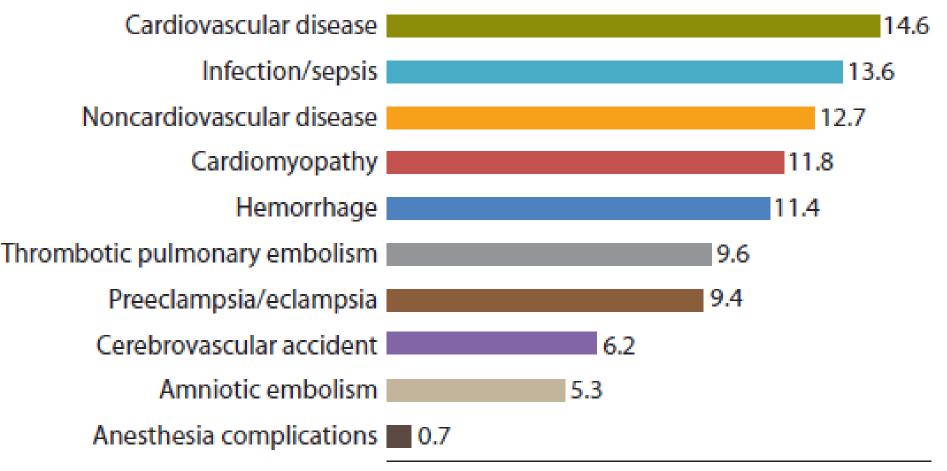


### **Maternal Mortality : Definitions**

- > Maternal Death: a woman who dies during pregnancy or within 6 weeks
  - Direct: From complications of Pregnancy
  - Indirect: From an effect of pregnancy on a pre-existing condition
- > Non Maternal Death: A death during pregnancy but from a non-pregnancy related cause
- Later Maternal Death: Maternal deaths occurring from 42 days to 1 year after birth due to direct or indirect causes.



#### Causes of Pregnancy-Related Death in the United States, 2006-2010



Percentage of All Pregnancy-Related Deaths (N = 3,358)

Notes: The cause of death is unknown for 4.7% of all pregancy-related deaths. "Noncardiovascular disease" refers to endocrine, hematologic, immunologic, and renal conditions.

## Causes for Maternal Deaths in New Mexico 2008-2014

These are during pregnancy or within 1 year of birth

Direct Obstetric	27
Indirect	23
Pregnancy Associated	82
Unknown	3

Total 135

## Causes for Maternal Deaths in New Mexico 2008-2014

#### These are during pregnancy or within 42 days of birth

Direct Obstetric	23
Indirect	11
Pregnancy Associated	18



#### Causes for Maternal Deaths in New Mexico 2008-2014 These are during pregnancy or within 42 days of birth

#### DIRECT

#### INDIRECT

	> Embolism	6	Cardiac	3
	> Hemorrhage	8	Pulmonary	1
	> Eclampsia/Pre-E	3	Sepsis	1
N COLON	> Procedure related	6	Other	4

#### 18 Women died from MVA, Homicide, Suicide and Overdoses

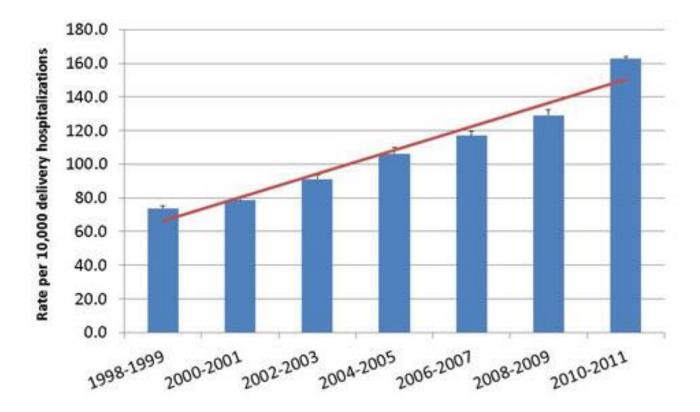
### **Severe Maternal Morbidity**

- > This is to identify and track "near misses"
- > CDC recommends reviewing cases with either
  - 4 or more units of blood products
  - Admission to an ICU
- A focused review tools stresses identification of system and process issues that worked or did not work to improve care



#### Trends in Severe Maternal Morbidity in the United States: 1998-2011

Severe Maternal Morbidity During Delivery Hospitalizations: United States, 1998-2011





# Severe Maternal Morbidity at University Hospital 2015

#### DIRECT

- > Hemorrhage 9
- > Emboli 1

1

> Pre-Eclampsia

#### INDIRECT

- > Sepsis 8
- > MVA 3
- > Overdose 2
- > DKA 2
- > Aneurysm
- > Pneumonia
- > Renal Disease

## To decrease our maternal mortality and severe morbidity rates we need to

- Optimize care when complications occur
- Appreciate the unique physiology of pregnancy
- Understand the diseases unique to pregnancy
- Anticipate how pregnancy will complicate other illnesses
- Improve our systems and regionalization
- Help women who do not want to get pregnant acquire good contraception