

(Health Care Provider)

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Interviewer: A new paper has been published by a group of scientists who reveal that preterm birth is the most frequent reason why infants die. Dr. William Callaghan, with the Centers for Disease Control and Prevention's Division of Reproductive Health, is one of the authors of the paper describing this finding. Dr. Callaghan, welcome and thank you for being here today. Please tell us about the paper and what's important for us to know.

Dr. Callaghan: We were interested in trying to understand the problem of infant mortality in the United States. That is, we were interested in trying to understand why about 7 of every 1,000 infants died during the first year of life. So to do this, we conducted a study to help determine what were the most important reasons for infant mortality.

We think this information is important for setting public health priorities – that is priorities for research, public health programs, the allocation of resources, public awareness, and public health policy aimed at reducing infant deaths. To do this, we evaluated national birth certificates and death certificates for all infants who died in the year 2002, in an effort to understand the major reasons why infants were dying in the first year of life and to try to understand how much prematurity was contributing to these infant deaths.

In the United States, generally, the traditional way of tracking infant mortality is to rank causes of death. The conventional tracking allows for preterm birth and low birthweight to be the cause of death only when other more specific causes are not listed on the death certificate. So using this conventional analysis, preterm birth is said to account for about 17% of all infant death; and hence it is the second leading cause of infant mortality. In the traditional way of looking at infant mortality, birth defects result in the highest number of infant deaths.

However, the problem is the deaths from prematurity fall into many different categories based on the underlying cause, such as the pregnancy complications that lead to preterm birth, or from conditions that come about just the infant was born premature such as the respiratory distress syndrome of the newborn. We conducted this study to understand how much prematurity from all causes was contributing to the problem of infant mortality in the United States.

Interviewer: And what did you find?

Dr. Callaghan: When we accounted for these other causes, we found that about 1/3 of all infants died because they were born preterm. That is, they were born before 37 weeks gestation or 3 weeks before the due date. This finding makes preterm birth the most frequent reason that infants die. Moreover, the majority of infants who died from causes that we attributed to prematurity were the smallest and most premature infants. These infants most often died within the first week of life, and often they died within the first 24 hours.

Interviewer: So, how were you able to assess the contribution of preterm birth to the overall infant mortality rate?

Dr. Callaghan: We used data from the National Center of (sic) Health Statistics. Each year, the National Center for Health Statistics links the information on death certificates of infants who died to the information on their birth certificates. This results in a computerized linked birth and infant death file and therefore we have the information not only on the death certificate but also all of the information that is on the birth certificate. The critical information we used from this file included the underlying cause of death, the age of the infant at death, the gestational age of the infant at birth and the infant's birthweight.

We looked at International Classification of Disease codes for causes of death to understand how these causes were related to prematurity. We only included a cause of death from a condition as a cause due to prematurity when the relationship was overwhelming. As such, we believe that our estimate of 1/3 of infant mortality being due to preterm birth is quite conservative. In addition, we confined our analysis to only the top twenty leading causes of death.

Interviewer: Dr. Callaghan, what is the impact of your findings?

Dr. Callaghan: Even with the very best of medical technology available to care for critically ill newborns, not all preterm infants will survive. We found that about 2/3 of infants who died due to prematurity were born at or before 24 weeks. That is, they were born at or below the limits of viability. So ultimately, decreasing infant deaths in the United States depends not only on treatment, but on effectively preventing premature labor and delivery from occurring in the first place.

Interviewer: So it seems the preterm birth rate is rising in the United States. If decreasing infant mortality depends on preventing preterm birth, what is being done to reverse this trend?

Dr. Callaghan: Well, unfortunately the current state of technology, excepting women who had a preterm infant in a previous pregnancy, clinicians have very few clues to predict which women will have a premature delivery. Moreover, aside from the evidence that the administration of 17-alpha-hydroxyprogesterone-caproate to women who had a previous preterm infant, there are no proven interventions for the general population that have been shown to prevent preterm birth. This points out that a comprehensive and expanded prevention research agenda is urgently needed to identify women at risk early in pregnancy and identify early and effective strategies to prevent premature labor and delivery.

CDC's Division of Reproductive Health and the National Institute of Child Health and Human Development at the NIH are working with partners to better understand the biological and social factors that result in preterm birth.

We still have much to do and a long way to go.

Interviewer: Do you have any recommended reading or background on prematurity?

Dr. Callaghan: In thinking about priorities for research, programs, resource allocation, public awareness, and policy aimed at reducing infant deaths, I would recommend the 2006 report from the Institute of Medicine of the National Academy of Sciences. They convened an expert and objective committee to look at prematurity. The report is entitled [Preterm Birth: Causes, Consequences, and Prevention](#) and it is available at www.nap.edu.

Interviewer: Dr. Callaghan, do you have any final comments?

Dr. Callaghan: We all hope that one day there will be a breakthrough announcement on preventing prematurity. Until then, we hope everyone will share our concern that prematurity and infant deaths are a significant public health issue...issues that affect all too many of our own families and the lives of people living in our own neighborhoods.

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