

we wholeheartedly support breast-feeding promotion, not only because it reduces the risk of SIDS, but because it is the optimal nutrition source for infants. However, there is evidence that the risk of bed-sharing for these infants is higher than the risk of room sharing without bed-sharing. A recent meta-analysis of 5 large case-control studies (with 1472 SIDS cases and 4679 controls) examined the association between bed-sharing and SIDS, with particular emphasis on lower-risk infants (ie, those who were breastfed and whose mothers did not smoke). Even among these lowest risk infants, bed-sharing infants were at a fivefold higher risk for SIDS up until the age of 3 months, when compared with infants who slept in the same room as their parent(s) but did not bed-share.<sup>3</sup>

Finally, we wholeheartedly agree with Bartick et al's statement that "public health efforts must address the reality that tired parents must feed their infants at night." Although bed-sharing facilitates breastfeeding, it is not essential for successful breastfeeding. Furthermore, we believe that the American Academy of Pediatrics recommendation that the infant sleep within arm's length in a bedside bassinet, portable crib, or crib can provide optimal protection against sleep-related deaths, because it allows for easy access to the infant for breastfeeding and comforting without bed-sharing. The goal should be for all infants to breastfeed (unless there are medical contraindications) and for no infants to bed-share.

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## In Reply to the Letter From Dr Cutz

Thank you for the opportunity to respond to the letter from Dr Cutz. His letter stated that no distinction was made between different infant death categories and that the study did not take into account possible health problems in the infants who died. Although we provided the proportion of deaths that were attributed to specific causes of death, we analyzed the associated factors for the group as a whole.<sup>1</sup> Because the modifiable risk factors for the 3 most common causes of sleep-related infant death are remarkably similar, we felt that it was important to identify these risk factors across categories of sleep-related infant deaths, regardless of the specific "official" diagnosis. Second, we did adjust for known health problems, including genetic and metabolic disorders, in the cohort. Specifically, we adjusted for Complex Chronic Conditions, which are "any medical condition that can be reasonably expected to last at least 12 months (unless death intervenes) and involving either several different organ systems or one system severely enough to require specialty pediatric care and probably some period of hospitalization in a tertiary care center."<sup>2</sup> We also should reemphasize that 97.6% of the cohort had an autopsy performed; if a health

problem was felt to contribute to the death was discovered by the medical examiner or coroner, this would have been indicated in the autopsy report, and this information was included in the database. We cannot speculate on whether additional unknown molecular or genetic abnormalities existed in the cohort, let alone attribute deaths to them.

Dr Cutz was also concerned that the percentage of infants with the diagnosis of accidental suffocation and strangulation in bed (ASSB) was higher than that reported in other articles, specifically citing Shapiro-Mendoza et al.<sup>3</sup> The difference in our proportion of deaths attributed to ASSB (26.8%) compared with Shapiro-Mendoza et al<sup>3</sup> (12.5% in the final year of that study) is likely due to different data sources. First, we acknowledge that the data set does not contain all sleep-related deaths in the reporting states; it should therefore not be considered a population-based data set. However, our data were derived from multidisciplinary state child death review teams that were able to comprehensively review all known aspects of a child's death, including past medical history, autopsy results, and death scene investigation. In contrast, Shapiro-Mendoza et al<sup>3</sup> relied on data derived from death certificates. Those authors noted that in many cases the information provided on the death certificate was limited, lacking some of the data from the autopsy reports and death scene investigation, and that cause of death determination was often pending when the death certificate was filed. Shapiro-Mendoza et al,<sup>3</sup> in a more recent study using a combination of data similar to the data sources in our study, including medical examiner, law enforcement, and hospital records, revealed that 47.9% of deaths were attributed by the medical examiner to ASSB.<sup>4</sup> Even the article cited by Dr Cutz (Pasquale-Styles et al<sup>5</sup>) revealed that "if the witnessed overlays, entrapments,

strangulations and infants found with their noses and mouths blocked and/or their heads covered represent asphyxia deaths, then a minimum of 108 (51.7%) in this study died of asphyxia” and “this would represent a conservative estimate of asphyxia deaths, as it does not take into account infants who died in high-risk sleep situations.”<sup>5</sup>

Dr Cutz also found implausible the proposed mechanism of suffocation of the older age group, stating that “actual scene reconstruction studies are often inconclusive” and citing Pasquale-Styles et al.<sup>5</sup> We disagree with this conclusion; again, Pasquale-Styles et al.<sup>5</sup> found that over half of the infant deaths in that study demonstrated a clear asphyxia mechanism.<sup>5</sup>

Finally, Dr Cutz expressed concern that our study and other recent studies “create the impression that the cause of sudden unexpected infant death including sudden infant death syndrome (SIDS) has now been identified and a simple solution exists to prevent such death,” thereby implying that further research into molecular and genetic etiologies to sleep-related infant deaths is unnecessary. That was certainly not our intention. We agree with Weese-Mayer et al.<sup>6</sup> (cited by

Dr Cutz) that “a number of genetically controlled pathways appear to be involved in at least some cases of SIDS.”<sup>6</sup> Unfortunately, at this point in time, the technology to identify which infants have a genetic predisposition to SIDS is not available.

Furthermore, as Dr Cutz noted, there are likely both intrinsic and extrinsic risk factors for sleep-related infant deaths. The Triple Risk Model mentioned by Dr Cutz posits that, if any of the 3 risks (vulnerable infant, critical period of development, and external stressors) is eliminated, infant death is unlikely to occur. Because we cannot yet identify which infants are vulnerable, and because the critical period of development is impossible to avoid, public health efforts have focused on eliminating the external stressors. Our analysis of risk factors was aimed at eliminating these external stressors; it was in no way intended to imply that the contribution of genetic causes is unimportant or to detract from the important work of investigators exploring genetic and molecular etiologies to sleep-related infant deaths.

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***In Reply to the Letter From Dr Cutz***  
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