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The Physician's Perspective:
A Health Policy Brief from the Institute for Patient Access

OCTOBER 2015

PROTECTING PREMATURE INFANTS FROM INFECTIOUS DISEASES

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Protecting newborn babies—especially those born prematurely—should be a top priority in any healthcare system. But public policy and insurance standards don't always provide for proper prevention against some of the greatest threats to preemies.

While all newborns are highly susceptible to infectious diseases, premature infants are even more at risk. Essential growth and development, particularly of the immune system, occurs throughout pregnancy. Thus, children born prematurely are less able to fight infection because they do not benefit from the additional passage of their mothers' antibodies during their final weeks in the womb.

Preemies often have underdeveloped airways as well, which can further complicate any infection they contract. Their weaker physical condition enhances the likelihood of additional co-morbidities and their overall ability to endure health challenges. For all of these reasons, public policies and insurance practices must help to prevent infections so every baby has the chance to thrive and grow.

IMMUNIZATION IS CRITICAL TO PREVENTION

The science is clear. Immunizations safely protect children against many potential infections. They represent the easiest, most effective way to prevent a number of infectious diseases and are essential to protect premature babies.

Nevertheless, confusion and misleading information still exists among the public. Parents' and health care providers' decisions during infants' first few weeks of life can have profound and long-lasting consequences, including death. These decisions may be influenced by a handful of celebrities with minimal medical knowledge as well as a few researchers who have made baseless claims against immunizations. Some scientists and physicians may mislead patients based on their own conclusions drawn from anecdotal cases.

These naysayers have managed to stoke enough fear about alleged connections between various vaccines and autism to make a significant impact in immunization rates in recent years. Thirteen separate scientific studies have demonstrated that no evidence supports such a link. Major authorities such as the World Health Organization, the Center for Disease Control, and the American Academy of Pediatrics unequivocally endorse immunization.

Figure 1. Studies that Demonstrate No Evidence Linking Autism and Immunizations

Source	Study design	Study location
Taylor et al., 1999 [5]	Ecological	United Kingdom
Farrington et al., 2001 [6]	Ecological	United Kingdom
Kaye et al., 2001 [7]	Ecological	United Kingdom
Dales et al., 2001 [8]	Ecological	United States
Fombonne et al., 2006 [9]	Ecological	Canada
Fombonne and Chakrabarti, 2001 [10]	Ecological	United Kingdom
Taylor et al., 2002 [11]	Ecological	United Kingdom
DeWilde et al., 2001 [12]	Case-control	United Kingdom
Makela et al., 2001 [13]	Retrospective cohort	Finland
Madsen et al., 2002 [14]	Retrospective cohort	Denmark
DeStefano et al., 2004 [15]	Case-control	United States
Peltola et al., 1998 [16]	Prospective cohort	Finland
Patja et al., 2000 [17]	Prospective cohort	Finland

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Parents tend to make informed decisions and even advocate for immunization publicly when they understand the data. A vast majority (83 percent) of Americans say vaccines are safe for healthy children,[1] and two-thirds of Californians supported aspects of a measure to require immunization for all students.[2]

Policymakers must continue to champion logical, evidence-based legislation and promote public dialogue rooted in science.

Public awareness efforts need to proactively discredit myths about immunization. Shielding infants from avoidable infectious diseases protects individual families and ensures the public welfare.

PREVENTION AGAINST RESPIRATORY SYNCYTIAL VIRUS

A less widely known issue, but one that is perhaps an even greater health concern to preemies, is protection against a highly contagious and potentially deadly virus known as Respiratory Syncytial Virus (RSV). In adults, children, and full-term infants, its symptoms usually resemble those of the common cold. However, RSV frequently causes severe problems in pre-term and other at-risk babies who do not have fully developed airways or mature immune systems.

Chronic lung disease, bronchopulmonary dysplasia, congenital heart disease, and other conditions frequently lead to RSV-related hospitalization. Environmental factors, such as child care, contagions from siblings, or complications from parental smoking can increase the risk and chance of hospitalization. Neurological, immunologic, and transplant complications may place babies at even higher cumulative risk.

RSV is the leading cause of hospitalization in babies less than one year old.[3] In fact, RSV is the most common cause of bronchiolitis and pneumonia.[4] RSV causes approximately 90,000 hospitalizations and 4,500 deaths per year in children five years of age and under.[5] Worldwide, there are up to 200,000 deaths per year from RSV.

The main approach to preventing the effects of viruses like RSV is through the use of a prophylactic biologic medication. Though it does not stop infection, prophylaxis does diminish its severity. RSV prophylaxis with a drug called palivizumab has been shown to reduce RSV infections and decrease hospitalizations of premature babies by at least 55 percent and as much as 80 percent in certain subgroups.[6]

Despite product labeling from the FDA based on clinical research, the current American Academy of Pediatrics Committee on Infectious Diseases' (COID) guidelines recommend prophylaxis only for premature infants born at 29 weeks gestation or earlier. There are few exceptions. Medicaid systems and private insurers who adopted the COID's stance into their coverage policies effectively shut the majority of premature infants out of RSV prevention. Their policies compound existing disparities; for instance, restricting access to RSV prophylaxis disproportionately affects African-American babies as they are more likely to be born prematurely and often have increased risk factors for the virus.

Palivizumab reduces RSV infections by at least 55 percent —

Yet inadequate insurance coverage prohibits as many as three-quarters of infants who need it from receiving it properly.

Another concern surrounding palivizumab is aligning standard practices. A great deal of confusion exists among patients and providers regarding disease risks, prophylaxis use, and coverage. Inconsistent reporting and documentation, along with variable insurance coverage, prevent as many as 75 percent of infants who would benefit from prophylaxis from receiving it.[7]

There is a renewed focus on prevention in the wake of recent skyrocketing rates of RSV infections in states such as Arizona and California. Private and public health insurers must reconsider the importance of RSV prevention, allowing for risk-based assessment that incorporates the insight of neonatal and pediatric care providers and families. Risk-based prevention also mitigates misdiagnoses that confuse RSV symptoms for flu symptoms.

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Moreover, the COID guidelines should align with the FDA's indication for palivizumab, allowing health care providers to administer preventative treatment based on their clinical judgement. Families need expanded education about RSV and how to properly protect their infants against the virus during "RSV Season," defined as the time when the virus is circulating in any given state, as outlined by the Center for Disease Control (CDC).

CONCLUSIONS

Public policies regarding immunization and prophylaxis should work to prevent infectious diseases that are particularly dangerous for premature babies.

Loving parents need to be empowered with accurate information about immunizations in order to do what is best for their preemie babies. The first fragile weeks of premature infants' lives are extraordinarily stressful for their new parents. Misinformation should not cloud their choices. Educating the public about the evidence supporting immunization must be continually emphasized.

For prophylaxis against RSV, uniform risk assessments and reporting will encourage better, more consistent insurance coverage. Health care providers must regain the ability to provide preventative treatment as needed for their fragile patients in accordance with palivizumab's FDA indication.

Congressional leadership and sound, evidence-based public policy can significantly reduce or eliminate the threat of infectious diseases that pose great risks to premature babies.

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