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**early developments** Frank Porter Graham Child Development Center

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University of North Carolina at Chapel Hill  
Frank Porter Graham Child Development Center

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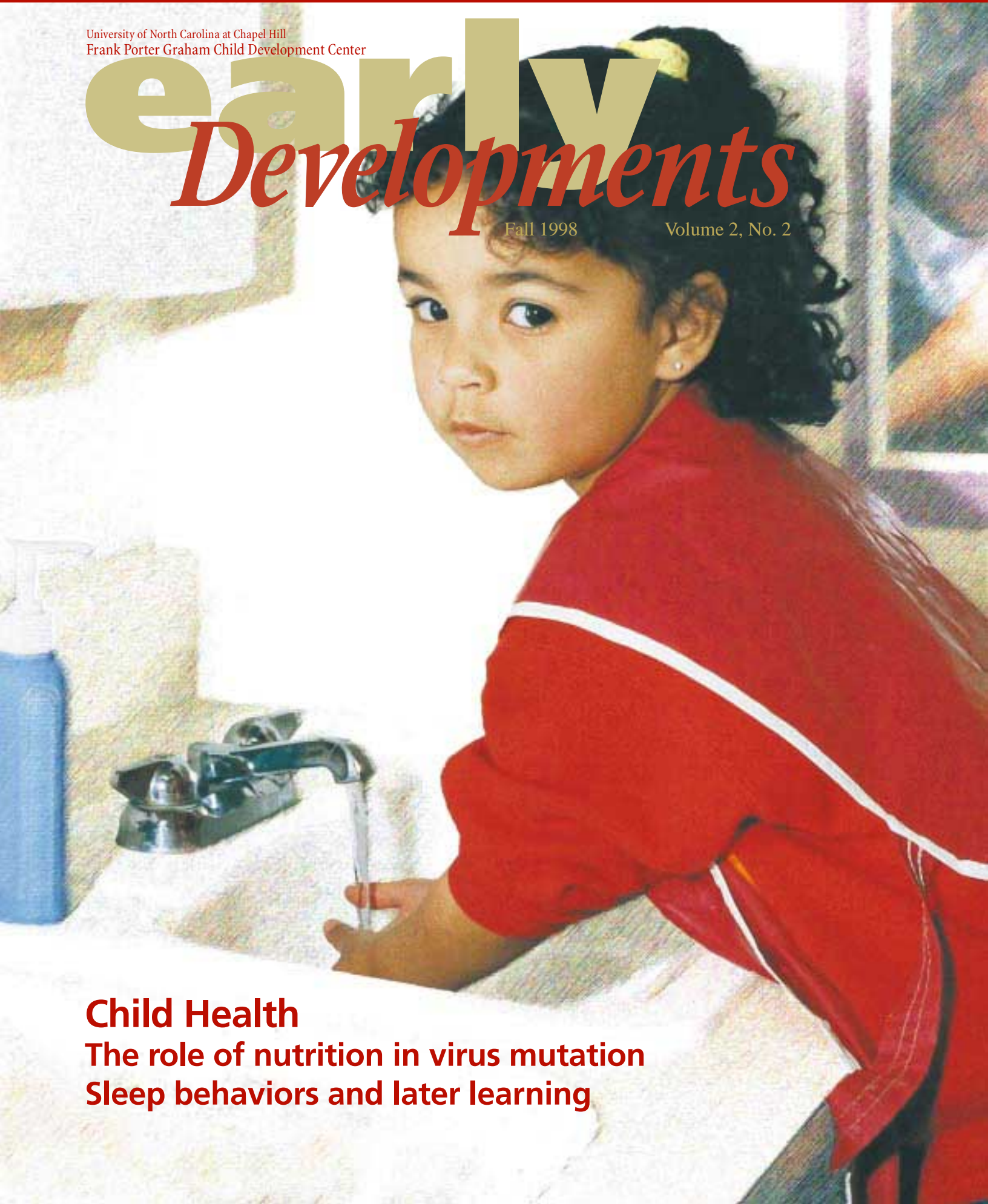
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## **Child Health**

**The role of nutrition in virus mutation**

**Sleep behaviors and later learning**



# Field notes

Could there be a link between groundbreaking research at the Frank Porter Graham Child Development Center and the “bird flu” that prompted Hong Kong officials to slaughter more than a million chickens last winter?

Melinda Beck, an FPG researcher, has established—in mice at least—that the common coxsackievirus, which gives us mild colds or perhaps a slight sore throat, can mutate into a nasty bit of business that can affect the heart muscle with fatal consequences. The mutation can come about when the host is deficient in either selenium or vitamin E. The unsettling part is that once mutated the virus can go on to attack people with no nutritional deficiencies.

This is fascinating new work that may help explain why new influenzas appear in the world every year or so. And the implications of her findings for healthy populations are profound. In this issue of *Early Developments*, our articles highlight Beck’s work and other research at FPG involving children’s health.

However, our researchers don’t just do research, they help translate research into good practice. One example is Joanne Roberts, a senior FPG investigator who has studied otitis media—infection of the middle ear—and bridged the gap that often occurs between research and practice. She has worked with the U.S. Department of Health and Human Services to draw up recommendations for medical management and hearing testing for children with otitis media with effusion (OME), fluid in the middle ear.

In a new book, *Otitis Media in Young Children: Medical, Developmental, and Educational Considerations*, Roberts and her co-editors provide not only the latest research on otitis media, but also its effects on children’s communication and learning. The book’s editors apply research to clinical practice, and explain the best ways to identify, treat, and manage middle ear problems. In this issue of *Early Developments*, we look at Roberts’ work and report on practical strategies for caregivers, teachers and families in dealing with a problem that affects about 30% of preschool children being evaluated for acute illnesses in the outpatient setting.

—Loyd Little  
editor

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From the director's office

## Health and well-being

**W**HEN YOU HEAR THE TERM CHILD DEVELOPMENT, most people think about language, cognitive, social, or motor development. During early childhood, however, and probably throughout the lifespan, health interacts with development in ways that we are just beginning to understand. Children's health is affected by the environments in which they live and play, as evidenced by the effects of poverty on children's access to nutritious diets or the data showing that ear infections are likely to be higher for infants in child care centers than infants at home. Likewise, child development is affected by children's health. Children who are malnourished, frequently ill, or who have a chronic health condition, are at risk for delayed or impaired development.

Fortunately, the important interrelationships between health and development were recognized when the Frank Porter Graham Child Development Center was established more than 30 years ago. Pediatricians were involved from the very beginning in planning the center and the health of children in child care centers has remained a focus of research ever since. In this issue of *Early Developments* we summarize some of our current major activities in the health arena.

We have learned that health is not just a medical issue, but rather is a topic that needs to be studied by a variety of disciplines, beyond

medicine, including nursing, speech and language pathology, audiology, early childhood education, psychology, social work, nutrition, and virology. Some of this work requires an understanding of the basic molecular mechanisms by which nutrients, disease, or environmental toxins affect the very fabric of our bodies. Other work requires an understanding of health in a social and behavioral context—what it means to families, children, and caregivers, and what can be done to improve it. In many cases we know what should be done, but have a difficult time making it happen. For example, we know that washing hands is one of the best ways to reduce the spread of disease in child care centers, but getting people to do it consistently is very hard.

This means that basic research into disease, nutrition, and health needs to be integrated with educational and psychological research in order to promote healthy development and to prevent problems in health from ever occurring. We know many of the causes of health and safety problems for children today. The challenge is how to create an environment where we put into practice what we know to be effective.

—Don Bailey

Bailey is director of the Frank Porter Graham Child Development Center and holds academic appointments in both the School of Education and the School of Medicine at UNC-Chapel Hill