Adults With Chronic Health Conditions Originating in Childhood: Inpatient Experience in Children’s Hospitals

Health care innovations have improved survival in children with conditions previously fatal in childhood. Implications for specific diseases have been reported, but little information is available on disease comparisons or population increases in adult survivors of childhood illness.

In this study of adults with chronic childhood diseases treated at 30 children’s hospitals over a 10-year period, 6 conditions were compared and patient population growth was projected. The disparity between diagnoses suggests the existence of systemic barriers to the transition of these patients to adult health care providers.


Early identification of developmental delays is essential for optimal early intervention. Increasingly, developmental screening is recognized as a key component of high-quality care. The American Academy of Pediatrics has issued policy statements supporting the importance of developmental screening along with implementation strategies.

Despite increased policy, research, and educational efforts to support implementation of standardized developmental screening, no national surveys have assessed whether use of formal tools has increased. This study examines changes between 2002 and 2009 in pediatricians’ developmental screening practices.

Promoting Best-Care Practices in Childhood Asthma: Quality Improvement in Community Health Centers

Clinical asthma management is suboptimal. Asthma morbidity continues to be a substantial contributor to pediatric health disparities. The authors combined continuous quality improvement and care coordination to significantly reduce asthma morbidity and improve the quality of life of children and adolescents.

Targeting a much larger population of children than the previous study, a more focused, but less intensive, technical-assistance approach resulted in major improvements in care and health outcomes for a large group of primarily low-income, minority children with asthma.
Media Use and Child Sleep: The Impact of Content, Timing, and Environment

Media use has been shown to negatively affect child sleep, especially in the context of evening use or with a television in the child’s bedroom. Increased sleep problems were observed in preschool-aged children for each additional hour of daytime violent media content or evening media use. No such effect was observed with nonviolent daytime use.

Parents’ Evaluation of Media Ratings a Decade After the Television Ratings Were Introduced

Parents desire media ratings to help them make choices for their children, but the ratings have problems with reliability and validity. Three national surveys reveal what parents think of the rating systems and what types of information they would prefer.

Pediatric Submersion Events in Portable Above-Ground Pools in the United States, 2001–2009

Previous studies on child drownings in swimming pools have focused on in-ground pools. However, portable pools for residential use have become increasingly popular in recent years. Male children younger than 5 years are at greatest risk for drowning in in-ground pools. This is the first study to describe the epidemiology of pediatric submersion events occurring in portable pools in the United States. Portable pools used in residential settings pose a significant risk of submersion-related morbidity and mortality to US children.

Parents’ Experiences of Expanded Newborn Screening Evaluations

The referral and evaluation of an infant for an abnormal newborn screening result is highly distressing for families. Screening for more metabolic disorders has increased infant referrals, but little is known about parents’ experiences of expanded screening evaluations.

Parents provided a description of the challenges they encountered during the evaluation of their infants. New approaches to care are suggested to help alleviate some of parents’ distress. Comprehensive strategies for follow-up are needed for infants with equivocal diagnostic results.

Adherence to Discharge Guidelines for Late-Preterm Newborns

Late-preterm newborns (born at 34–36 weeks’ gestation) have a higher morbidity and mortality risk in the neonatal period compared with term newborns. Early newborn discharge (hospital stay < 48 hours) for this population has not been well described. Despite recommendations from the American Academy of Pediatrics, early discharge of late-preterm newborns is common. This study demonstrates the association of regional and hospital-level factors with this practice.

Implementation of a Multicenter Rapid Response System in Pediatric Academic Hospitals Is Effective

Single-center studies have revealed the effectiveness of pediatric rapid response systems, including decreases in cardiopulmonary arrests, respiratory arrests, and the incidence of preventable cardiac arrests. This study from the Ontario Pediatric Critical Care Response Team Collaborative is unique in that it is the first multicenter, prospective, observational study describing the implementation of a pediatric rapid response system using a physician-led medical emergency team.

Underimmunization in Ohio’s Amish: Parental Fears Are a Greater Obstacle Than Access to Care

Underimmunized communities are reservoirs of preventable childhood diseases in the United States. Many Amish communities have low immunization rates. Previous research among the Amish has revealed that the major barrier to immunization is lack of access to health care. Among the Amish in Holmes County, Ohio, the major barrier to immunization is parental concerns over adverse effects of vaccines. Decision-making about vaccination among Amish parents is complex; many Amish parents accept some vaccines for their children but refuse others.
Sexual History Documentation in Adolescent Emergency Department Patients

Sexual histories are not routinely obtained among female adolescents in primary care settings. No previous study has evaluated the frequency of sexual history documentation among female adolescents who present to the emergency department with symptoms suggestive of a sexually transmitted infection.

This is the first study to evaluate frequency of sexual history documentation among adolescent emergency department patients who presented with symptoms suggestive of a sexually transmitted infection and concordance of a physician-elicited sexual history with a patient-documented history on questionnaire.

Epidemiology of Sudden Death in Young, Competitive Athletes Due to Blunt Trauma

Fatalities caused by blunt trauma are known to occur in children and adolescents in a variety of circumstances, including while engaged in competitive in sports. This unique national database provides a prevalence for trauma-related catastrophes in children, adolescents, and young adults aged 21 or younger; establishes the epidemiology of events for which football conveys highest risk; and provides visibility to underrecognized mortality risks associated with “second-impact syndrome.”

The Prevalence, Severity, and Distribution of Childhood Food Allergy in the United States

Estimates of food allergy in the United States range from 2% to 8% but are limited by several factors. Previous studies often relied on small samples, lacked data on mode of diagnosis/reaction history, were not specific to children, or were limited in scope to a specific allergen.

This study includes a representative sample of US households to estimate the overall prevalence of food allergy as well as the prevalence of allergen-specific and severe food allergy. Data also provide a framework for discussions of disparity and the distribution of childhood food allergy in the United States.

Comparison of the World Health Organization Growth Velocity Standards With Existing US Reference Data

There is limited use of growth velocity standards compared with attained growth reference values. Growth velocity reference values were developed in 1991 in the United States, and, in 2009, the World Health Organization released new growth velocity standards.

Comparison of the World Health Organization and US-based weight and length gains show striking differences. Assessment of child growth velocities and resulting clinical decisions will vary considerably depending on which set of values is used.

Children With Asthma Hospitalized With Seasonal or Pandemic Influenza, 2003–2009

Asthma is recognized as a condition conferring higher risk for influenza complications. Seasonal influenza hospitalization rates are higher among asthmatic children than healthy children, and asthmatic people accounted for a large proportion of all patients hospitalized with 2009 pandemic H1N1 influenza.

This analysis provides the first description of the characteristics and clinical courses of asthmatic children hospitalized with seasonal or 2009 pandemic H1N1 influenza in the United States and documents the substantial burden of influenza complications among these children.

Importance of Early Weight Change in a Pediatric Weight Management Trial

Early weight change predicts eventual weight loss treatment outcome in adults, but little is known about the importance of early response in children. Predictors of early weight change are unknown, which limits the clinical utility of this marker of outcome.

Children’s weight change by session 8 of a family-based pediatric weight control intervention predicted BMI z score change up to 2 years after treatment. Better treatment attendance and greater early weight change in parents were associated with children’s weight change by session 8.
Puberty and Influencing Factors in Schoolgirls Living in Istanbul: End of the Secular Trend?

There is a downward secular trend in the timing of puberty in transitional societies, although it seems to have halted in US and European countries.

In a transitional society such as Turkey's, the age of menarche did not change in 4 decades, despite a trend to earlier attainment of breast stages. Increase in BMI and socioeconomic status are important factors in the timing of menarche.

Computer-Assisted Management of Attention-Deficit/Hyperactivity Disorder

Medication is effective in reducing attention-deficit/hyperactivity disorder symptoms, but community management is suboptimal. Computer-assisted decision-making can improve quality of care. Structured titration procedures can improve outcomes, but centralized procedures to identify optimal levels may be difficult to implement.

Brief physician training alone did not lead to greater clinical improvement, but adherence to a protocol that involved titration until a clinically significant change resulted, by using a medication management software program, led to greater symptom reduction.

The Risk of Necrotizing Enterocolitis After Indomethacin Tocolysis

Indomethacin tocolysis continues to be used despite little evidence of improved neonatal outcomes. The literature addressing complications of antenatal indomethacin frequently discusses its association with necrotizing enterocolitis; however, antenatal indomethacin is strikingly absent in literature addressing risk factors for this condition.

In this study, antenatal indomethacin was significantly associated with necrotizing enterocolitis in preterm infants in the first 15 days of life. If indomethacin tocolysis is used, subjects should be educated regarding risks and benefits and the neonatologist be made aware of fetal exposure.

Analgesic Effects of EMLA Cream and Oral Sucrose During Venipuncture in Preterm Infants

Venipunctures are painful in preterm neonates. Oral sucrose has a moderate effect on reducing venipuncture-induced pain in neonates. Sucrose should be combined with other analgesic methods to improve analgesia. Data on the analgesic efficacy of EMLA cream in neonates are conflicting.

The combination of sucrose plus EMLA cream was more effective than sucrose alone in reducing venipuncture-induced pain in preterm neonates. The use of this combination analgesic strategy will improve pain management of venipuncture in preterm neonates.

High-Dose Docosahexaenoic Acid Supplementation of Preterm Infants: Respiratory and Allergy Outcomes

Very preterm infants are at risk of bronchopulmonary dysplasia and are more likely to suffer from atopic conditions in later life. Docosahexaenoic acid is known to modulate inflammation and is postulated to modulate the neonatal immune response.

High-dose docosahexaenoic acid supplementation may reduce the incidence of bronchopulmonary dysplasia in the smallest infants and male infants, and reduces reported hay fever at either 12 or 18 months in male infants but has no effect on other atopic conditions.

Maternal Depressive Symptoms and Child Care During Toddlerhood Relate to Child Behavior at Age 5 Years

Maternal depression in toddlerhood has been linked to increased behavior problems in children. However, there is little information on whether nonmaternal child care in toddlerhood may ameliorate the effect of maternal depression on subsequent child behavior.

As little as half a day of formal child care at the age of 2 years modified the effect of recurrent maternal depressive symptoms on total behavior problems in children aged 5 years.
Elevated Blood Pressure During Sleep and Wake in Children With Sleep-Disordered Breathing

In adults, sleep-disordered breathing is associated with elevated blood pressure, and this condition is related to severity of the disease. Studies in children have been limited, and results have been conflicting.

The authors recorded blood pressure continuously overnight in children and revealed that all severities of sleep-disordered breathing were associated with elevated blood pressure of 10 to 15 mm Hg. These cardiovascular complications in mild disease need to be considered when planning treatment thresholds.

Predictive Value of an Early Amplitude Integrated Electroencephalogram and Neurologic Examination

An early amplitude integrated electroencephalogram has been shown to be predictive of encephalopathy and short-term neurologic outcome among neonates with hypoxic-ischemic encephalopathy.

In a prospective study, the authors found that the amplitude integrated electroencephalogram background pattern at <9 hours did not significantly enhance the predictive value of stage of hypoxic-ischemic encephalopathy at <6 hours in predicting death and disability at 18 months.

Food Commercials Increase Preference for Energy-Dense Foods, Particularly in Children Who Watch More Television

Experimental exposure to television food commercials increases children’s preferences for and consumption of foods, particularly energy-dense foods. This effect occurs at a “beyond-brand” level in all children, with evidence that overweight children are more responsive to external food cues.

This study adds to our limited knowledge of individual differences in response to food advertising. This is the first study to show that habitual television food advertising exposure mediates children’s level of susceptibility to commercial messages typically promoting energy-dense foods.

Correlation Between Ventriculoperitoneal Shunts and Inguinal Hernias in Children: An 8-Year Follow-up

In the entire English literature, only 3 studies have associated ventriculoperitoneal shunt in children with higher incidence of inguinal hernia. The 3 studies were institutional based, so the true incidence and association between a ventriculoperitoneal shunt and subsequent inguinal hernia remain unclear.

This study used a nationwide longitudinal cohort, the National Health Insurance Research Database, which contains data on >1.5 million preschool-aged children across institutions for both hernia surgery and ventriculoperitoneal shunts in children to determine their association.

Prenatal Exposure to Organochlorine Compounds and Birth Size

There is growing concern that chemical agents could impair the anthropometric development of the fetus. However, epidemiological studies have reported inconsistent results.

The results of this study reveal that moderate prenatal exposure to some organochlorine pesticides, including 4,4'-dichlorodiphenyltrichloroethane, 4,4'-1,1-dichloro-2,2-bis(p-dichlorodiphenyl)ethylene, hexachlorobenzene, and β-hexachlorocyclohexane, may exert adverse health effects on birth size, reducing the birth weight, length, and head circumference.

The Efficacy of Motivational Interviewing Versus Brief Advice for Adolescent Smoking Behavior Change

Adolescent cigarette smoking is a significant public health problem. More research on adolescent smoking cessation treatment is needed to identify effective interventions for a range of adolescent smokers in a medical setting.

To effectively treat adolescent smokers, decisions to change smoking behavior facilitated by motivational interviewing may need to be supported by additional treatment approaches such as pediatrician’s advice and cognitive-behavioral smoking cessation strategies.
Folic Acid Use in Pregnancy and the Development of Atopy, Asthma, and Lung Function in Childhood

Folic acid use during pregnancy has been promoted worldwide for the prevention of neural tube defects. Recently, folic acid supplementation during pregnancy has been implicated as a potential risk factor for the development of atopic diseases in early childhood.

This study prospectively investigated the relationship between maternal folic acid use during pregnancy and the development of atopic manifestations, using questionnaire information as well as measured intracellular folic acid levels in late pregnancy. The latter has not been investigated previously.

Low-Dose, High-Frequency CPR Training Improves Skill Retention of In-Hospital Pediatric Providers

Low-dose, high-frequency cardiopulmonary resuscitation (CPR) training has not been rigorously evaluated previously. This study is the first to demonstrate that low-dose, high-frequency CPR training can improve CPR skill retention of pediatric providers.

Mevalonate Kinase Deficiency: A Survey of 50 Patients

The previously described clinical spectrum of mevalonate kinase deficiency ranges from recurring febrile attacks (hyperimmunoglobulin D syndrome) to a more severe form (mevalonic aciduria), which also includes psychomotor retardation, facial dysmorphia, cataracts, and failure to thrive.

This series of 50 patients with mevalonate kinase deficiency widens the known clinical spectrum of this disorder, revealing it to be not only an autoinflammatory syndrome but also a multisystemic inflammatory disorder, a possible immunodeficiency disorder, and a condition that may predispose patients to the development of renal angiomyolipoma.

Decoding Motor Signals From the Pediatric Cortex: Implications for Brain-Computer Interfaces in Children

A brain-computer interface is a system that decodes a signal from the brain and uses it for control of a desired machine output. These systems have been widely studied for use in restoring function in adults with motor disabilities. Before this study, neuroprosthetic capabilities in children were unknown. The results of this study show that pediatric brain signals can be decoded and applied similarly to adult brain signals, which thus expands neuroprosthetic horizons to children.

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