

ResearchReview

Dan Murphy, DC, DABCO



Children and Adverse Drug Events

Title: **Pediatric Adverse Drug Events in the Outpatient Setting: An 11-Year National Analysis**

In: *Pediatrics*, October 2009; 124:e744-e750

Authors: Florence T. Bourgeois, Kenneth D. Mandl, Clarissa Valim and Michael W. Shannon

Key Points:

- 1) "Adverse drug events (ADEs) are a common complication of medical care." In this study, 5% of the children's adverse events were serious enough to require hospitalization.
- 2) This study shows that nearly 600,000 children per year (585,922) have to go to the doctor's office or emergency department for treatment of adverse drug events to prescription medications that were administered and taken properly.

- 3) 78% of children with an adverse reaction to a prescription drug will go to an outpatient clinic.
- 4) 12% of children with an adverse reaction to a prescription drug will go to an emergency department.
- 5) "Children 0 to 4 years of age had the highest incidence of ADE-related visits, accounting for 43.2% of visits."
- 6) "The most common symptom manifestations were dermatologic conditions (45.4%) and gastrointestinal symptoms (16.5%)."
- 7) "The medication classes most frequently implicated in an ADE were antimicrobial agents (27.5%), central nervous system agents (6.5%), and hormones (6.1%)."
- 8) "Among adverse drug events related to antimicrobial agents, more than half were the result of a penicillin (40%) or cephalosporin (15%)."

- 9) About 70% of children seen by medical personnel in an ambulatory setting are given drugs.
- 10) 4.7% of all hospitalizations are the result of adverse drug events.
- 11) 6.5% of inpatients suffer adverse drug events during their hospitalization.
- 12) 16% of all outpatient prescriptions are associated with adverse drug events.
- 13) "The greatest proportion of adverse drug event visits were by non-Hispanic white children, those with private insurance, and those residing in the South."

The study shows that nearly 600,000 children per year (585,922) have to go to the doctor's office or emergency room for treatment of adverse drug events to prescription medicines.

- 14) "Among children 12 to 18 years of age, we found an increase in the number of adverse drug events related to central nervous system agents and hormones and synthetic substitutes. The rise in visits related to central nervous system agents likely reflects the increase in

medication therapy for depression and other emotional and behavioral disorders during adolescent years."

Comments:

The number of adverse drug events in US children reported in this study is much lower than the actual number for three reasons (which means the real number is much higher):

- 1) The authors only reported adverse drug reactions to prescription drugs; over-the-counter drug adverse events were not included in this study.
- 2) Adverse drug events in which the parent did not bring their child into a doctor's office, clinic, or emergency department were not counted. In other words, this article only counted adverse drug events that required medical attention.
- 3) These authors "were careful to exclude all cases which might be related to drug abuse, use of an illicit substance, intentional overdose, or administration of the wrong medication."

Therefore, the incredible numbers in this article represent only the "tip of the iceberg."

Vaccine Note:

A chart in this article shows vaccine adverse events:

See **RESEARCH REVIEW**, page 26

President's Corner – Walsemann

Continued from page 3

including our key professional staff and our Summit partners, THANK YOU!

ICA has organized a massive grass-roots lobbying campaign on national healthcare reform and other critical issues through our innovative and sophisticated *www.AdjustTheVote.org* mobilization program. More than 18,000 DCs and patients have already been mobilized through this unique outreach and lobbying program and more than 100,000 messages sent on chiropractic's behalf to national healthcare policy makers. A series of comprehensive design and data engineering elements make this powerful online data and outreach tool a robust and responsive communications systems applicable for taking action on federal, state and local levels. For success in healthcare reform and for all other federal chiropractic issues, we must continue to push for greater and greater participation in *www.AdjustTheVote.org*.

To those who have worked so hard and with such single-minded focus and dedication to bring this powerful asset into being on behalf of the chiropractic profession, we humbly and most sincerely say THANK YOU!

ICA has a volunteer program to serve returning veterans from Iraq and Afghanistan. "ICA CARES" is an appropriate name for the profession-wide volunteer program organized in 2008 to mobilize doctors of chiropractic across the country to provide one year of free care for military veterans returning from Iraq

and Afghanistan. To date, more than 300 DCs, with doctors in nearly every state in the US have joined, offering care and service at no charge to thousands of returning veterans. A searchable database of participating doctors is available on the ICA website and new participants are added as soon as they sign up.

If you are interested in serving, you can enroll online through ICA's website at *www.chiropractic.org*. We need more doctors in every state, regardless of their organizational affiliation, to join in this effort. To all those who have joined in this volunteer program, and to the hundreds of thousands of men and women who have served in all branches of the Armed Forces, THANK YOU!

ICA is active in a wide range of postgraduate councils. Included in that distinguished list is the Council on Fitness and Sports Health Science which will be hosting the 18th Annual Symposium on Natural Fitness on March 5-6, 2010, featuring the world's most famous chiropractic patient Governor Arnold Schwarzenegger. ICA's Council on Applied Chiropractic Sciences and Council on Chiropractic Philosophy will also be active in the New Year. ICA's newest postgraduate body, the Council on Upper Cervical Care is serving to unite the upper cervical community and to offer new emphasis on this highly specific technique. The Council on Wellness Science will again conduct its hugely popular certification series, with this four-module seminar series being offered in Phoenix, Arizona, Philadelphia, Pennsylvania and Minneapolis, Minnesota. More than 5,000 individuals have attended one or more

of ICA's wellness seminars, making it arguably one of the most successful and popular program in chiropractic history. ICA's Council on Chiropractic Pediatrics is one of the profession's largest postgraduate organizations with members throughout the US, Canada and 27 nations around the world. It's Diplomates are being recognized worldwide for their excellent education and expertise. This council also publishes the profession's only peer-reviewed pediatrics research journal, the *Journal of Clinical Chiropractic Pediatrics*. To all the dedicated ICA Council leaders and members, THANK YOU!

ICA continues to make the protection of the chiropractic practitioner's independence and practice rights a top priority. It is active in the legal actions being taken to protect both patients and practitioners from abuses at the hands of two national insurance companies. In recent years and in support of that commitment, the ICA has, through an extensive committee, research and review process, investigated, developed and published the most powerful, comprehensive and firmly grounded set of chiropractic best practice and clinical guidelines in the history of the chiropractic profession: the *ICA Best Practices and Practice Guidelines (ICA Guides)*. If you have not already reviewed this historic document you can do so online at: <http://www.icabestpractices.org/>. These guidelines have been officially accepted by the federal National Guideline Clearinghouse (NGC), an enormous and significant accomplishment.

ICA's Guidelines Committee is actively working to bring these guidelines to state boards, organizations, educational institu-

tions and third party payment agencies, both public and private. These documents have already served hundreds and hundreds of DCs very well in the past several months, often in very complicated and adversarial situations.

The *ICA Guides* are the only guidelines to include ALL levels of evidence while excluding personal opinion. The evidence in the *ICA Guides* can be used to support chiropractic care for both musculoskeletal and non-musculoskeletal conditions to 3rd parties such as insurance companies and healthcare-related government entities for the purpose of improving coverage of chiropractic benefits.

Another powerful example of ICA's commitment to professional independence is the historic *Radiology Protocols for Biomechanical Assessment of Spinal Subluxation in Chiropractic Clinical Practice (PCCRP)*. This unique document gives DCs worldwide the resources to defend themselves and their practices against the persistent assault on the use of x-rays in chiropractic practice being mounted by private insurance companies and their paid "experts." The PCCRP document has also been officially accepted by the federal National Guideline Clearinghouse (NGC).

Dozens of doctors of chiropractic from around the world donated thousands of hours of extraordinary effort to develop and maintain these documents. To all those who gave so much to serve and support us all, THANK YOU!

See **PRESIDENT'S CORNER**, page 11