ACADEMY ON VIOLENCE & ABUSE

ADVANCING HEALTH EDUCATION & RESEARCH

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AVA Research Review

ADVANCING HEALTH EDUCATION & RESEARCH

Review Title: Primary Prevention of Abusive Head Trauma- A Cost Analysis

Reviewer: Robert Block, MD, FAAP

Article:
Friedman J, Reed P, Sharplin P, Kelly P. Primary prevention of pediatric abusive head trauma: A cost audit and cost-utility analysis. Child Abuse & Neglect 2012; 36:760-770.

Article Summary:
Brief Overview:

This study reviews abusive head trauma (AHT) data from New Zealand, where the rate of AHT is between 14.7 and 19.6 per 100,000 children under the age of one year. Citing the Dias study (2005) of AHT prevention that describes the success of a parent education conversation and video, the authors note that this initial report of success subsequently has been challenged. Seeking cost/benefit data to support AHT prevention in New Zealand but finding no published data, the authors created two goals: to obtain reliable data on the cost of pediatric AHT in their population, and to use the data to inform the utility of a possible national prevention program.

Reviewing 5 years of data of children under two years of age admitted with "traumatic subdural hemorrhage" and a diagnosis of AHT, the authors utilized a societal perspective in their approach to measure costs which included costs from: hospital care, child protection involvement, criminal investigation, criminal trial and department of corrections, and rehabilitation and ongoing community healthcare. They could not find reliable data to include special education costs. They discuss both Quality-Adjusted Life Years (QALY), a method to analyze both quality of life and life expectancy. Health

economists use QALY analysis when deciding the utility and expense of a prevention program.

Relevant findings:
There were 52 cases identified, with an age range of 3 days to 23 months. There are no details presented on the cases, especially notable for the absence of detail on the 3-day-old baby. Costs are reported in New Zealand dollars with the current exchange rate equal to 1 New Zealand dollar equal to .79 US Dollars.

- Hospital cost mean: $38,743
- Child Protection cost mean: $7,829 (with the mean for additional costs measured over a longer time period of $30,002)
- Total costs for police investigations: $1,842,237 for 49 cases.

Costs for criminal trials and other costs associated are included both in narrative and table format, but are difficult to interpret. However total costs for the cohort studied totaled $52,433,864 with a mean of $1,008,344 per child (New Zealand Dollars).

Authors' conclusions:
The authors review the benefits and "pitfalls" of cost analysis studies. They recognize that the study might be criticized for overstating costs, and report that potential savings from an AHT prevention program remain valid. They do admit that an important pitfall is their assumption that the initial Dias report of 47% decrease in AHT cases following the New York prevention program is valid, as they say that figure is based on "relatively slender evidence." They close with the hope that future studies will support better economic arguments for the prevention of AHT.

Reviewer's comments:
The authors seem to be making the case for the validity and cost savings of primary prevention of abusive head trauma. They are on the right track with a first step to estimate the cost of the problem. A next step could be to include data on the actual cost to administer the primary prevention program in order to determine the return on investment calculation for this intervention ie. Does it cost less (or more) to implement the intervention than the cost savings of prevented cases of abusive head trauma? While health care providers are inclined to place clinical outcomes above economic outcomes, this cost tradeoff becomes increasingly relevant when speaking to policymakers to advocate for support of prevention efforts.