

## **Budget Impact Analysis of Integrative Pain Management Services for Pediatric Chronic Pain Management**

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### **Background/Purpose**

Chronic pain is a leading cause of morbidity in children and adolescents globally, but can be managed with a combination of traditional western medicine and integrative medicine (IM) practices. This combination has been shown to improve a variety of critical health outcomes, such as quality-of-life, sleep, pain, anxiety, and healthcare utilization. These IM practices include acupuncture, yoga, biofeedback, massage, mindfulness, or any combination of these modalities. The current manuscript developed a budget impact model to estimate the institutional costs of implementing these practices among adolescents.

### **Methods**

A decision tree was used to estimate the reduction in hospitalizations and emergency department (ED) use based on a previously published retrospective analysis of children receiving IM practices comparing utilization rates 1-year pre- and post-implementation of IM services. Costs associated with the implementation of each modality were based on hourly compensation rates for licensed professionals administering each service as well as equipment associated with delivery (e.g. acupuncture needles, biofeedback equipment, and sensors). The cost of each hospitalization and ED visit was derived from the literature. In addition, cost-savings were estimated based on government- and commercial-contracted reimbursement rates for each service.

### **Results**

Cost-savings were approximated to range from \$1344 to \$3439 per patient, with even greater cost-savings of up to \$6,000 and \$4,132 when accounting for government and payer reimbursement, respectively.

### **Conclusion**

IM leads to improved pain relief when combined with traditional medicine and yields significant cost-savings, thus supporting the routine implementation of IM alongside traditional medicine in healthcare settings.