When Complex Care Goes Complementary: Closing the Loop on Integrated Care for Children With Special Health Care Needs

Presented by:

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Overall NIH/NCCAM R21 Study


Study Components

• **Methods:** Survey development and meta-data analysis on existing NCCAM NHIS supplement for children and linkages with MEPS

• **Framework/Agenda:** Health services research framework and methods and data gap analysis

• **New Knowledge:** Baseline epidemiologic profile of CAM use among US children in context of conventional care use, access and quality
  - Examination of CAM use for children with special health care needs (our focus today)

Additional Study Focus: Data and Research Resources

Interactive online data query tool; quick-guides to learn about the NHIS NCCAM survey; constructed data sets and codebooks, etc.  ([www.nhiscamdata.org](http://www.nhiscamdata.org))
The National Health Interview Survey (NHIS) Child CAM Supplement

The Child CAM Supplement is one of the NHIS Supplements and collects information about non-conventional health services, products, and practices commonly used in the United States. NHIS is the principal source of information on the health of the civilian non-institutionalized household population of the United States. One child age 0-17 years from each family was randomly selected for the Sample Child Core questionnaire. Additional information about this “sample child” and other family members is collected with the Family Core questionnaire.

The Data Resource Center takes the results from the NHIS Child CAM Supplement, Sample Child and Family Cores and makes them easily accessible to parents, researchers, community health providers and anyone interested in child health and child CAM use data. Estimates on this site are nationally representative. National data can be further refined to assess differences by the US region, race/ethnicity, income, child’s health and condition status and a variety of other important demographic and health status characteristics. Read more about the NHIS and Child CAM Supplement.

Learn about the NHIS Child CAM Supplement

- Interested in an overview of the NHIS Child CAM
Objective:
To report national data on the use of CAM and conventional care among children with special health care needs (CSHCN)

Research Question Focus

1. Overall Prevalence: CAM use prevalence for CSHCN vs. Non-CSHCN

2. Use Variations: Within CSHCN CAM Prevalence
   • By complexity of conventional care service needs & use
   • By qualification on CMS Primary Care Medical Home Demonstrations provider payment incentive code list (CMS/ACA-qualifying conditions list)

3. Parent Reported Reasons and Communication With Providers:
   • Characterize primary reason for CAM use among CSHCN
   • Report on parental report of CAM use to conventional care providers

4. Quality of Conventional Care:
   • Associations with whether CSHCN experience care meeting medical home criteria (as assessed using the MEPS variables)
**Key Variables: CSHCN**

**Definition of CSHCN**: Children who have any type of chronic condition(s) that require an above routine type or amount of health and related services.

**Identification of CSHCN**: Used the standardized and validated CSHCN Screener is used to define CSHCN. This is included in MEPS (since 1999).

Required linkage of NHIS files to MEPS.

Learn more at www.childhealthdata.org
Key Variables: 39 CAMModalities

Grouping A:
• Alternative Medical Systems
  (e.g., acupuncture, homeopathy)
• Biologically Based therapies
  (e.g., herbs, special diets, vitamin supplements)
• Manipulative and Body-Based Therapies
  (e.g., chiropractic, craniosacral)
• Mind-Body Therapies
  (e.g., meditation, yoga, biofeedback)

Grouping B (not shown today)
• CAM Services
• CAM Practices
• CAM Products
Data Sources and Linkage: NHIS + MEPS

2007 NHIS
- Person File: n=75,764
- Family File: n=29,915
- Sample Child File: n=9,417
- 2007 NHIS Child CAM File: n=9,417
- Sample Adult and Adult CAM File: n=23,393

2007 NHIS 2008 MEPS (Panel 13) Linked File: n=2,411

At the family level

2008 MEPS
- 2008 MEPS Full Year Consolidated Data File: n=9,538 (children)
- Panel 13 child sample: n=5,769
Statistical Methods

• Uni- and bivariate analyses

• Multivariate analyses to calculate adjusted odds ratios (AOR), controlling for
  – CSHCN complexity
  – demographic characteristics

• Standard two-part regression model analyses for MEPS expenditures data
Prevalence of CAM Use: CSHCN are more likely to use CAM

Data source: NHIS/MEPS linked file

AOR controlling for age, sex, race/ethnicity, region and income

- Non-CSHCN (MEPS): 14.3%
- CSHCN (MEPS) (19.9% are CSHCN): 24.7%

AOR: 1.89*
Prevalence of CAM Use Among CSHCN by Type of CAM

Data source: NHIS/MEPS linked data
CAM use by Complexity: Number of Chronic Conditions (based on NHIS list of conditions)

Data source: NHIS/MEPS linked file

AOR is statistically significant compared to the reference group - No chronic condition and Non-CSHCN after controlling age, sex, race/ethnicity, region and income

Methods Note: Small sample sizes limit detection of differences
This relationship is seen within all CAM modality groups

- Alternative Medical System/Energy healing
  - No chronic conditions: 2.0%
  - 1 chronic condition: 2.8%
  - 2 chronic conditions: 5.2%
- Biologically-based therapies
  - No chronic conditions: 9.0%
  - 1 chronic condition: 10.1%
  - 2 chronic conditions: 16.8%
- Manipulative and body-based therapies
  - No chronic conditions: 4.9%
  - 1 chronic condition: 4.4%
  - 2 chronic conditions: 4.3%
  - 3+ chronic conditions: 7.0%
- Mind-body therapies
  - No chronic conditions: 2.4%
  - 1 chronic condition: 4.6%
  - 2 chronic conditions: 6.1%
  - 3+ chronic conditions: 13.6%
Conventional medical care expenditures are higher among CSHCN who use CAM.

Data source: NHIS/MEPS linked file

- CSHCN (19.9%): $3,369
- Non-CSHCN (80.1%): $1,190

CAM Users*:
- $4,450
CSHCN use CAM for health problems and needs—not simply for overall wellness and prevention

Children whose parents cite “wellness and disease prevention” as the most important reason they use CAM

*Child has at least one: depression, ADD/ADHD, or autism and/or two of: asthma, diabetes, overweight

P-values?
CSHCN, especially those with more complex service needs, do not use CAM primarily for general health and wellness. Rather, they seek help beyond conventional medical care for health problems.
CSHCN who do NOT meet medical home criteria are 1.7 times more likely to use CAM.

Prevalence of CAM use medical home:
- Medical home: 16.3%
- NO medical home: 27.8%

Relative Risk (RR) = 1.7, P = 0.04

Data source: NHIS/MEPS linked file
Patient-Provider Partnership and CAM Use: CSHCN who do NOT experience shared decision-making in their health care encounters are much more likely to use CAM.

- Shared decisionmaking: 20.7%
- NO shared decisionmaking: 35.9%

Data source: NHIS/MEPS linked file
45.8% of children with chronic conditions have parents who did not tell the child’s providers about their child’s use of CAM

WHY? Most common reasons for not disclosing CAM use:

• The provider did not ask (55.7%)
• Parents did not think the provider needed to know (42.2%)

Source: 2012 NHIS CAM Supplement (Based on chronic conditions list from NHIS—can not link 2012 NHIS to MEPS until 2014)
Are parents of CSHCN seeking out CAM providers for reasons related to poor patient engagement and communication?
We need to close the loop on integrating care for CSHCN

- CAM use is associated with the complexity and intensity of children’s health service needs and poorer quality of conventional medical care.
- Children with complex health problems receive multiple forms of conventional, complementary and alternative care, emphasizing the need for well integrated and coordinated pediatric care systems within the context of a medical home.
CAM use may be underestimated because some CAM modalities (e.g. prayer, music therapies) are not included in the 2007 and 2012 NHIS CAM Supplement.

Sample size in linked NHIS/MEPS File

- Prevents further subgroup analysis and likely Type 2 errors

Question inconsistencies between surveys limited ability to assess the impact of CAM use on children’s health and health outcomes

Methods for NHIS CAM Supplement Regarding “condition/reason for using CAM