The Medical Home: Relationships With Family Functioning for Children With and Without Special Health Care Needs

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ABSTRACT

OBJECTIVE: In this study we tested the association of the medical home with family functioning for children without and with special health care needs (CSHCN).

METHODS: We used data from the 2007 National Survey of Children's Health to run multivariate logistic regressions to test the association between having a medical home and family functioning (difficulty with parental coping, parental aggravation, childcare/work issues, and missed school days). We further assessed interactions of CSHCN status with having a medical home.

RESULTS: In adjusted analysis, parents of children with a medical home were less likely to report difficulty with parental coping (odds ratio [OR] 0.26 [0.19–0.36]), parental aggravation (OR 0.54 [0.45–0.65]), childcare/work issues (OR 0.72 [0.61–0.84]), and missed school days (OR 0.87[0.78–0.97]) for their children than those without a medical home. Using interaction terms, we found that for most outcomes, the medical home had a greater association for CSHCN compared with healthy peers, with odds ratios ranging 0.40 (CI 0.22–0.56) for parental aggravation to 0.67 (CI0.52–0.86) for missed school days.

CONCLUSIONS: We show that the medical home is associated with better family functioning. All children may benefit from receiving care in a medical home, but CSHCN, who have greater needs, may particularly benefit from this enhanced model of care.

KEYWORDS: children; family impact; health care delivery; medical home; quality of care

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WHAT'S NEW

This study shows that the medical home is associated with decreased reports of parental aggravation, adverse childcare and work issues, and missed school days, all markers of family function. This association is found for CSHCN and the general pediatric population.

BACKGROUND

A FAMILY'S ABILITY to function well—to experience low amounts of stress, to have low levels of aggravation with one another, and to carry out day-to-day activities (work, school) without interruption—is important to children's well-being, and evidence is accumulating that it may affect life-long health trajectories.[1,2] Repetti et al[1] have summarized a framework that illustrates how family functioning impacts children's life-long health trajectories and well-being through social, psychological, and physical pathways. In this model, children exposed to family-level stress, particularly chronic aggression and anger in unsupportive and neglectful family relationships, are at risk for mental health and physical health problems. Having an ill child naturally places some stress on parents,[3,4] and, in turn, parental stress and functioning are linked to children's health[5–7] and health care use.[8]

Little is known about how health care delivery systems are associated with family functioning. Independent of stress from illness, procedures, and treatments, families experience stress and frustration from disorganized health care systems and elusive community resources.[9] The medical home concept was designed to ensure access to care, effective communication and partnership with clinicians, and coordination with specialists and community agencies.[10] In previous studies, mostly performed in families of children with special health care needs, authors have shown that changes in practices toward medical home ideals are associated with desired health-related outcomes, including better compliance with treatment, and fewer visits to the emergency department and hospitalizations.[11,12] In other studies researchers have examined associations beyond health and use of care. Having a medical home is associated with less parental work loss as the result of a child's health condition[13–15] and less financial burden of a child's condition on families.[16] It is also associated with fewer school days missed.[17,18] Although in most studies authors have examined medical homes among children with special healthcare needs (CSHCN), Long et al[19] reported associations between

similar outcomes and having a medical home among children with no special health care needs.

In these previous studies, authors have not examined whether having a medical home is associated with family functioning itself. This study addresses 2 research questions. First, do parents of children with medical homes experience better coping, less aggravation with their children, fewer difficulties finding child care, fewer work issues, and, for children, better school attendance, compared with parents of children without a medical home? We hypothesize that having a medical home will be positively associated with these measures of family functioning, Second, is there an interaction between having a child with or without a special health care need in this association? We hypothesize that there will be an association for both groups but that the association will be stronger for families with CSHCN. As the medical home model has spread from a pediatric model of care for CSHCN to a care model for all children and all adults, the question remains whether medical homes are associated with beneficial processes and outcomes of care for all children or just those with the most need. Finding such an association in both populations would bolster the case for expanding the medical home and would open avenues for research on whether changing medical care delivery systems can potentially change life-long health trajectories by mediating overall family functioning during childhood.

METHODS

SAMPLE AND SURVEY

We conducted a cross-sectional analysis of the National Survey of Children's Health 2007 (NSCH)[20] to assess the association between receiving care in a medical home and family functioning indicators. The NSCH addresses various aspects of children's health and well-being (physical and mental health and social well-being) and includes family and neighborhood questions. The NSCH is a nationally and state level representative telephone survey conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention and supported and developed by the Maternal and Child Health Bureau. Parents or guardians of 91,642 children between the ages of 0 and 17 years completed telephone interviews (interviews were completed among 66% of identified households with children, but the overall response rate was 46.7%). The NSCH included the CSHCN Screener, a screening tool developed by the Child and Adolescent Health Measurement Initiative, to identify special health care needs in children.[21] A total of 18,352 CSHCNs were identified in the survey (20%). Data documentation and additional details on the methodology are available elsewhere.[22]

VARIABLES

Medical home status was determined by the AAP criteria of a medical home. We coded having a medical home per the Child and Adolescent Health Measurement Initiative (CAHMI) coding scheme[23] used by the Maternal and Child Health Bureau core outcome 2 (CSHCN will receive coordinated, ongoing, comprehensive care within a medical home) for use with the NSCH.[24] This medical home measure composite score represents 5 of the 7 elements of the AAP criteria of a medical home and is derived from 5 distinct component variables constructed from a total of 19 NSCH survey items. These components are: 1) having a personal doctor or nurse, 2) having a usual source for sick and well care, 3) receiving family-centered care, 4) having no problems getting needed referrals, and 5) receiving effective care coordination when needed. To qualify as having a medical home, children must meet the criteria for adequate care on the first 3 components: personal doctor or nurse, usual source for care, and family-centered care. Any children who needed referrals or care coordination must also meet criteria for those components.[23] This is the medical home definition used by many of the other NSCH and NSCSHCN medical home studies (eg, see Strickland et al[25] and Raphael et al[26]).

Four dependent variables that are related to family functioning variables were selected: 1) difficulty with parental coping, 2) parental aggravation, 3) at least one childcare or work issue, and 4) any missed school days. As per the model by Repetti et al,[1] we use difficulty with parental coping and aggravation as measures of family stress. We include childcare or work issues and any missed school days as risk factors for parental stress.

The survey items used to create each of these variables are listed in Table 1. The parental coping measure reads: In general, how well do you feel you are coping with the day-to-day demands of parenthood? Responses ranged from very well to not very well at all on a 4-point scale and were coded as very well and somewhat well versus not very well and not very well at all. Parental aggravation was coded, per CAHMI SAS code specifications, as answering usually or always to one or more of the

Table 1. Description of the 2007 National Survey of Children's Health (NSCH) Items Used to Create the Dependent Variables*

Dependent Variable	NSCH 2007 Items Use
Difficulty with parental coping	1) Did not cope well/very well with the demands of parenthood
Parental aggravation	1) Parent reported child usually or always harder to care for than other children and/or 2) Usually or always bothered by their child's behavior and/or 3) Usually or always angry with their child
At least one child care or work issue	1) Needed child care in the past month and 2) Needed to make last minute arrangements for child care in the last month, and/or 3) Family member who could not take a job or quit a job due to child care issues in the last 12 months
Missed school days	1) Number of missed school days in last 12 months

*All dependent variables were coded dichotomously, except for missed school days, which was coded categorically.