A review of the evidence for the medical home for children with special health care needs

CRD summary
This review concluded that there was moderate support for the hypothesis that medical homes provided improved health-related outcomes for children with special health care needs, but further research was needed. There were some methodological problems with the review, but the authors’ conclusions were suitably cautious and appear to be reasonable given the data presented.

Authors' objectives
To evaluate the evidence on the federal Maternal and Child Health Bureau recommendation that children with special health care needs should receive ongoing comprehensive care within a medical home.

Searching
MEDLINE and CINAHL were searched for articles, with an abstract published in English, from 1986 to November 2006. The search terms were reported. Reference lists of retrieved articles and reviews were searched and experts on the topic were contacted.

Study selection
Quantitative studies of children (aged 18 years or under) with special health care needs, residing in medical homes in the USA, were eligible for inclusion. Studies could include adult patients, but had to report the data for children separately. Before-and-after studies of children with asthma that did not have a comparison group were excluded. Relevant outcomes included safety, effectiveness, efficiency, timeliness, health or functional status, cost, and family outcomes.

The included studies were randomised controlled trials (RCTs), before-and-after studies, cohort studies, and cross-sectional studies, of children with chronic health conditions, wheezing conditions, allergy conditions, or Down’s syndrome.

Two reviewers independently selected one third of the studies and one reviewer selected the remaining articles.

Assessment of study quality
Quality was assessed according to the following hierarchy of evidence: RCT, before-and-after study with a comparison group, before-and-after study without a comparison group, cohort study, and cross-sectional study. The authors did not state how many reviewers assessed the quality.

Data extraction
The data were extracted for effectiveness, efficiency, family centeredness, timeliness, health or functional status, cost, and family functioning. The authors did not state how many reviewers extracted the data.

Methods of synthesis
A narrative synthesis was presented and the results were grouped according to the study outcomes and study type.

Results of the review
Thirty studies were included in the review, with six RCTs, one before-and-after study with a comparison group, four before-and-after studies without comparison groups, three cohort studies, and 16 cross-sectional studies. The sample sizes ranged from 60 to 38,866 children.

Health outcomes: Four out of six studies found statistically significant positive effects on effectiveness (one also found no effect), and nine out of 13 studies found statistically significant positive effects on health or functional status (two also found no effect), for children in medical homes.
Social outcomes: Four out of four studies found statistically significant positive effects on family functioning (one also found no effect), and 16 out of 18 studies found statistically significant positive effects on family centeredness (six also found no effect), for children in medical homes. Seven out of 15 studies found statistically significant positive effects on efficiency (four also found no effect, while one trial found no effect and a negative effect). All seven studies found statistically significant positive effects on timeliness of care; four studies found that not being in a medical home was likely to delay care.

Cost information
One study found that when a programme to enhance care coordination was introduced into a children's hospital, in 1989, the adjusted hospital in-patient charges for chronic conditions decreased from 28.1 million US dollars ($) to $14.6 million in 1995.

Authors' conclusions
There was moderate support for the hypothesis that medical homes provided improved health-related outcomes for children with special health care needs, but further research was needed.

CRD commentary
The inclusion criteria were clearly defined and several relevant databases were searched. Publication bias was not assessed and cannot be ruled out. Some attempts were made to minimise the risk of reviewer bias during study selection, but the authors did not report any such attempts for quality assessment and data extraction. Quality assessment was by a simple hierarchy of evidence, which is unlikely to give a true reflection of the study quality. The studies were narratively synthesised, which was appropriate for the type of data.

There were some methodological problems, but the authors' conclusions were suitably cautious and appear to be reasonable given the data presented.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further research on the impact of medical home care on children with special health care needs was required. This research should focus on interventions that target specific aspects of medical homes, and those that assess the full medical home construct. More rigorous methods were needed, including standardised and consistent measures and experimental or quasi-experimental designs. Studies should have long follow-up periods and examine more diverse patient populations. Outcomes, such as safety, equity, development, family, and costs, should be explored. A combination of qualitative and quantitative research should investigate the characteristics of the medical home that can be put into practice and the interventions and support needed to create and sustain these practices. Research should be conducted on the balance between the primary care medical home and the treatment of children with rare chronic conditions.

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