Multiple Behavior Change Intervention to Improve Detection of Unmet Social Needs and Resulting Resource Referrals

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Abstract

Objective: It is critical that pediatric residents learn to effectively screen families for active and addressable social needs (ie, negative social determinants of health). We sought to determine 1) whether a brief intervention teaching residents about IHELP, a social needs screening tool, could improve resident screening, and 2) how accurately IHELP could detect needs in the inpatient setting.

Methods: During an 18-month period, interns rotating on 1 of 2 otherwise identical inpatient general pediatrics teams were trained in IHELP. Interns on the other team served as the comparison group. Every admission history and physical examination (H&P) was reviewed for IHELP screening. Social work evaluations were used to establish the sensitivity and specificity of IHELP and document resources provided to families with active needs. During a 21-month postintervention period, every third H&P was reviewed to determine median duration of continued IHELP use.

Results: A total of 619 admissions met inclusion criteria. Over 80% of intervention team H&Ps documented use of IHELP. The percentage of social work consults was nearly 3 times greater on the intervention team than on the comparison team ($P < .001$). Among H&Ps with documented use of IHELP, specificity was 0.96 (95% confidence interval 0.87–0.99) and sensitivity was 0.63 (95% confidence interval 0.50–0.73). Social work provided resources for 78% of positively screened families. The median duration of screening use by residents after the intervention was 8.1 months (interquartile range 1–10 months).

Conclusions: A brief intervention increased resident screening and detection of social needs, leading to important referrals to address those needs.

Keywords: health status disparities; poverty; social determinants of health; socioeconomic factors; vulnerable populations

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What's New

A brief intervention using multiple behavioral change strategies effectively increased resident screening and detection for social needs. Because of its strong impact on child health, it is imperative that physicians are adequately trained in the detection of social needs.

SOCIOECONOMIC STATUS IS one of the most important determinants of health in children.[1–3] As many as 83% of pediatric patients in some primary care settings present with at least one major negative social determinant of health, such as unhealthy housing conditions or food insecurity.[4–6] Because of the impact of socioeconomic status on health, the Institute of Medicine recommends routine screening and data collection regarding social needs.[7,8] In addition, the current pediatrics residency requirements of the Accreditation Council for Graduate Medical Education (ACGME) mandate advocacy training.[9] Commentators have argued that this training should include screening for social needs and that the current pediatric social history does not adequately screen for social needs and must be improved.[10,11]

Previously reported interventions have attempted to improve the ability of physicians to broadly screen for social needs. Screening instruments administered to parents before the physician encounter (such as in the waiting room) have been evaluated with respect to various social needs.[4,6,12–14] These instruments have been found to be effective in detecting social needs, were acceptable to

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parents, and resulted in increased social service referrals.[6,12] These instruments, however, may have requirements such as dedicated computers that limit their feasibility in certain medical contexts and are reliant on parental cooperation outside of the parent–provider interaction. In addition, most of the screening questions used in expanded social histories have not been previously validated.

Other studies have evaluated interventions teaching residents to improve their social histories[15,16] or to identify and probe patient responses indicating possible unmet social needs.[17] Those interventions often included multiple lectures over several weeks,[16,17] did not demonstrate consistently increased referrals for unmet social needs,[16] or did not evaluate whether the intervention's effect faded over time.[17] In order to address the ACGME's requirement for competency in assessing and managing social needs while remaining sensitive to work hour limits, a brief but intensive curriculum to train residents in screening patients for unmet social needs is needed.[9,10]

In this study, we sought to determine if a brief intervention using multiple behavioral strategies to increase intervention intensity could improve screening for social needs by pediatric residents. We also sought to determine the duration of resident screening for social needs over a prolonged study period, the validity of the screening in comparison to a full social work evaluation, and whether resources and referrals were made to correct the detected needs.

METHODS

STUDY DESIGN, POPULATION, SETTING, AND PERIOD

We used a postintervention only design with a usual-education comparison group. The intervention took place at Children's Mercy Hospital, a 265-bed, freestanding children's hospital with a pediatric residency program including a total of 106 pediatric and medicine-pediatric residents. All pediatric or medicine-pediatric interns were eligible for study participation. The intervention group consisted of interns rotating on one preselected inpatient general pediatrics team (intervention team). All interns on an otherwise identical inpatient general pediatrics team served as the comparison group (comparison team). Comparison team interns who had previously rotated on the intervention team during the study period were excluded from the comparison group analysis. However, if an intern had been on the comparison team and then later the intervention team, their data were treated as though they were on the comparison team during that month, and then on the intervention team when they started the intervention team rotation. Intervention and comparison team rotations were 1 month in duration, and assignment to teams was not influenced by intern preferences. The intervention was conducted monthly for 18 months (July 1, 2011, to December 31, 2012). This study was approved by the institutional review board at Children's Mercy Hospital. Written informed consent was obtained.

MAIN EXPOSURE

The intervention consisted of 7 components and reflected 5 behavioral change strategies. Table 1 displays the intervention components by behavioral change strategy. Components 1 to 5 occurred during 2 brief meetings with interns on the intervention team. During the first meeting, which lasted approximately 20 minutes, interns met with a member of the study team, who explained the relationship between social needs and child health, critiqued the current standard for social history questions (eg, household members, daycare), and described an expanded social history for detecting social needs. The expanded social history (IHELP) was derived from Kenyon et al[11] and explores 8 domains of social needs (Table 2). A reference card listing the IHELP questions was attached to the intern's hospital identification badge, where they were always accessible, so the questions did not need to be memorized. The IHELP method was briefly demonstrated and practiced through role-playing. Participating interns were told that IHELP represents a higher standard of care and were strongly encouraged to use it when admitting patients. The participating interns were told that the study team member would briefly follow up with them in 7 to 10 days; although this subsequent meeting (lasting <5 minutes) simply addressed any barriers or questions faced by the intern in using IHELP, the intern's knowledge of the follow-up meeting provided an incentive to begin using the method.

In the sixth component of the intervention, the intervention team's attending physicians agreed to start rounds each morning with the question, "Are there any IHELP issues on any of our patients?" This question, asked before the start of family-centered rounds, replaced the usual question, "Are there any social issues on any of our patients?" Doing so provided a daily explicit reminder of IHELP, creating a social norm and expectation for IHELP use, and elevating

Table 1. Intervention Components and Associated Behavioral Change Strategies

Intervention Component	Behavioral Change Strategy
Teaching IHELP	Education/providing information
Providing IHELP cards so that memorization was not required	Reducing barriers
Critique of current social history standard of care	Social normalization
IHELP role-playing	Enhancing skills
Follow-up meeting with interns 7–10 days after initial teaching session	Reducing barriers (and changing the consequences)
Starting rounds with "Are there any IHELP issues?"	Social normalization
Attending comments of use of IHELP in 2 admission histories and physicals for each intern during the 1-month rotation	Changing the consequences

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