Doctors and Lawyers Collaborating to HeLP Children—Outcomes from a Successful Partnership between Professions

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Abstract: Background. Clear associations exist between socioeconomic risks and health, and these risks are often amenable to legal interventions. Methods. This is a case study of an implementation of a medical-legal partnership (MLP) in three pediatric primary care centers that serve a predominantly high-risk population. Referral circumstances and outcomes over the first three years are described. Results. During the three-year study period, 1,808 MLP referrals were made for 1,614 patients by all levels of provider. Those referred were more likely to have asthma (p<.0001) and developmental delay/behavioral disorder (p<.0001) than the general clinic population. Housing (37%) and income/health benefit (33%) problems were the most common reasons for referral. Referrals led to 1,742 (89%) positive legal outcomes affecting nearly 6,000 cohabitating children and adults and translating into nearly $200,000 in recovered back benefits. Conclusion. Successful MLP implementation
enabled pediatric providers to address social determinants of health potentially improving health and reducing disparities.

**Key words:** Medical-legal partnerships, social determinants of health, pediatric primary care.

Child health is affected by socioeconomic and environmental risks rooted in poverty. Risks regarding access to health care and resources, housing, food and income security, education, employment, and safety disproportionately affect underserved children, widening medical and developmental outcomes disparities. In urban pediatric primary care settings (PCS), cumulative hardships are common, compounding the impact on health. Early detection and mitigation of socioeconomic and environmental risks within a pediatric PCS has the potential to be especially efficacious, but identifying interventions to ameliorate such risks has been challenging.

Many socioeconomic and environmental issues common to low-income families are amenable to legal remedies. Attorneys with expertise in underserved populations’ rights are natural allies for pediatricians providing care in underserved communities. Attorneys working with health care teams through medical-legal partnerships (MLPs) can facilitate the provision of legal services to vulnerable families, promoting health and reducing morbidity. Many families seen in PCSs might benefit from MLPs since approximately 50% of all low to moderate-income households are estimated to have at least one unmet legal need (e.g., public benefit denial or unsafe housing). Families referred to an MLP showed increased access to health care, food, and income resources; two-thirds reported improved child health and well-being.

Identifying at-risk families requires consistent, appropriate screening. Traditional social histories often focus on high-risk behaviors and activities at the expense of basic needs. Additional barriers to social history completion include time constraints, provider discomfort, and the perception that social determinants of health (SDH) may be irremediable. Therefore, trainees, though interested, are often unprepared to screen patients in continuity clinics, although these children tend to be underserved with significant social risks and needs. Curricula specifically addressing SDH lead to increased resident knowledge and confidence towards screening; however, residents with access to social and legal resources identify risks at rates higher than those with limited resources. Medical-legal partnerships within resident continuity clinics have improved individual providers’ screening, which can positively affect clinical outcomes.

In August 2008, an academic pediatric primary care center at Cincinnati Children’s Hospital Medical Center (CCHMC) and the Legal Aid Society of Greater Cincinnati (LASGC) launched the Cincinnati Child Health-Law Partnership (Child HeLP), an MLP that co-located legal advocates with physicians (including residents). Although MLPs have been widely adopted, little information is published discussing necessary steps to build the partnership and outcomes that result from medical-legal collaboration. This paper describes initial steps and early outcomes resulting from such collaboration.
Methods

This is a descriptive paper that introduces the critical steps required to implement an MLP co-located in an academic pediatric PCS and the key outcomes resulting from the program's first three years.

Setting—Child HeLP in an academic pediatric primary care center. Child HeLP was launched in Clinic A, a large, urban, academic pediatric PCS within a free-standing children's hospital. Clinic A has 35,000 patient visits annually and is staffed by eight full-time equivalent (FTE) attending pediatricians. Each year, Clinic A is the continuity clinic training site for 80 residents and 50 medical students. Patients are predominantly economically disadvantaged, and approximately 90% are covered by Medicaid. When Child HeLP was implemented in 2008, ancillary staff included three full-time social workers and a registered dietician.

Three months after Child HeLP launched at Clinic A, the MLP expanded to Clinic B, an urban, community PCS that has 10,000 pediatric visits annually. At the time of spread, Clinic B was staffed by 2.5 attending physician FTE. Annually, it serves as the continuity clinic site for 20 residents and 25 medical students.

Services were extended in May 2010 to Clinic C, a suburban community PCS established in January 2010 with 16,000 annual pediatric visits. At the time of spread, it was staffed by 4 attending physician FTE and 1.5 nurse practitioner FTE; it is not a resident or medical student training site. The three clinics together follow approximately 28,200 children. Clinics A and B have nearly identical patient demographic profiles. Clinic C is characterized by lower rates of Medicaid coverage and minority race. All three clinics are owned and operated by CCHMC, so providing similar patient services was valued, but we wanted to develop the model and manage quality spread of new services.

Legal services were provided by LASGC, a large law firm that assists low-income residents in seven Southwest Ohio counties. Legal resources increased to match clinic expansion. Child HeLP was implemented initially with one attorney (0.5 FTE) and one paralegal (0.5 FTE). In 2009, attorney time was expanded to 1.5 FTE and paralegal time to 1.0 FTE; off-site LASGC staff provided additional support.

Building connections between a pediatric primary care center and a community agency. The first step in Child HeLP development was to identify programmatic champions in the medical and legal settings. Before launch, these champions outlined Child HeLP’s mission and strategic plan and defined staffing, budgetary needs, fundraising, roles, responsibilities, communication, and referral procedures. Monthly meetings plus periodic informal communication ensured that unexpected problems were addressed promptly. Leadership and legal counsel at CCHMC and LASGC executed a memorandum of understanding. An Advisory Council of community leaders and medical and legal representatives was formed for guidance and support. The partnership was introduced to resident and attending physicians, social workers, dieticians, nurses, and ancillary staff during divisional meetings, education sessions, and via e-mail updates. Training on family needs and Child HeLP services were reviewed during staff meetings. Updates were provided at yearly refresher sessions. Resident and faculty education was expanded to highlight targeted social screening. Screening and referral processes were
Initial outcomes from a successful medical-legal partnership

Incorporated into routine patient care processes by adjusting the electronic medical record (EMR) to include standardized social questions (e.g., about public benefits, housing, domestic violence). During the first four months, information technology specialists from CCHMC and LASGC developed data collection methods to facilitate efficient access to referral and outcome data for Child HeLP leadership.

**Pediatric resident education to improve social risk identification.** Pediatric resident education was emphasized since residents were the primary care providers for approximately half of Clinic A's patient visits. In 2008, the pre-existing advocacy rotation was adapted to improve residents' understanding of issues facing economically underserved families. The curriculum combined experiential and didactic learning taught collaboratively by pediatricians, legal advocates, and community partners and was supplemented by interactive case-based conferences and pre-clinic teaching sessions (Figure 1). Individual patient outcomes resulting from resident referrals were shared via e-mail, highlighting the program's impact on their patients.

**Patient- and family-level outcome data collection and analysis.** Medical and legal data were first available in January 2009. Patient-level demographic and clinical data were collected via EMR review. Nearly three years into the program, the EMR changed from Centricity (GE Medical Systems Information Technologies) to Epic (Epic Systems Corporation) due to institutional changes. Both EMRs included patient problem lists updated by clinicians during all visits. All three sites used the same EMR with identical data fields. Demographic data obtained included patient age, gender, race, and insurance status. Problem lists for patients referred to Child HeLP were also extracted. *A priori*, we assessed asthma, elevated lead level, and developmental delay and/or behavioral issues,

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**Figure 1. Resident education on social determinants of health.**

- **Intern**
  - Immersion experience (3 hours) facilitated by pediatrician, community-based collaborators
  - Tour benefits agency and food bank
  - Didactic experience (3.5 hours) taught by physicians and legal advocates
    - Medical-Legal Partnerships
    - Budgeting exercise
    - Benefits, housing, educational rights
    - Individual reflection exercise

- **Upper Level Resident**
  - Quarterly case-based conferences
    - Multi-disciplinary, interactive sessions
    - Reinforced content focusing on socioeconomic and environmental risks
    - De-identified, but actual patient outcomes shared as part of the cases to reinforce potential positive impacts
  - Quarterly pre-clinic teaching sessions
    - Devoted to the logistics of screening and referring within standard care
    - Occurred quarterly for 15-20 minutes at the beginning of continuity clinic
three common chronic conditions in our population known to be affected by SDH. Each condition was defined as present or absent in a patient’s problem list. Baseline clinic data for prevalence of these diagnoses were obtained through review of all 28,200 patients’ problem lists. The prevalence of chronic conditions among children referred to Child HeLP was compared to all clinic children using $\chi^2$ statistics.

Since referrals to Child HeLP were entered into the EMR as physician orders, we extracted the referral source, defined as attending physician, resident physician, social worker, or nurse/medical assistant.

Once the parent/guardian consented to the sharing of protected health and legal information, EMR-based referral orders automatically alerted the on-site Child HeLP attorney or paralegal. Child HeLP staff then interviewed the family during their medical visit. If a Child HeLP provider was unavailable (e.g., the referral came from Clinic B or C, on a weekend or after hours), a LASGC staff member called the family to complete the initial interview. Referral information, including referring provider, medical record number, legal advocate, and case type/identified legal circumstance, was entered into Pika (Shaker Heights, Ohio), LASGC’s electronic case management software. Legal circumstances were defined as income/health (i.e., public benefit denial or delay, Medicaid issues), housing (i.e., poor conditions, evictions), education (i.e., unmet needs, school discipline issues or special education services), family law (i.e., divorce, custody), and miscellaneous. If the family was reached and amenable to legal advocacy, a case was opened in Pika. It was possible that a referral would not lead to an opened case, if the family could not be reached. Since families may have had multiple legal needs, it was also possible that a single referral would lead to multiple open cases. Once cases were opened, attorneys or paralegals helped to identify potential interventions and strategies for each case circumstance.

Case types and legal outcomes are presented as frequencies. Data on back due monetary benefits received by families as a result of legal advocacy were collected by LASGC and are also presented.

This study was approved as an exempt study by the CCHMC Institutional Review Board.

**Results**

Between January 2009 and December 2011, 1,808 Child HeLP referrals were initiated for 1,614 patients. Of these referrals, 86% originated from Clinic A, 6% from Clinic B, and 8% from Clinic C. Approximately 62% of those referred were under 5 years old (Table 1). Compared to all patients seen at Clinics A, B, and C (n=28,200), those referred to Child HeLP (n=1,614) were more likely to be African American, publicly insured, and diagnosed with asthma or developmental delay/behavioral disorder (all $p \leq 0.0001$) (Table 2).

Referrals were made for a variety of reasons (Figure 2); concerns with housing (37%) and income/health benefits (33%) were most common. The 1,808 referrals led to 1,617 cases pursued by the 1,614 referred families. Referrals resulted in 1,945 legal outcomes, of which 89% (N=1,742) were positive (improvement in housing, benefits, education, or provision of legal advice). The other 11% (N=203) related to inability to
Table 1.
DEMOGRAPHIC CHARACTERISTICS FOR INDIVIDUAL PATIENTS REFERRED TO CHILD HELP (N=1614)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child age (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5</td>
<td>999</td>
<td>61.9</td>
</tr>
<tr>
<td>5–10</td>
<td>370</td>
<td>22.9</td>
</tr>
<tr>
<td>≥ 10</td>
<td>245</td>
<td>15.2</td>
</tr>
<tr>
<td>Child's gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>868</td>
<td>53.8</td>
</tr>
<tr>
<td>Female</td>
<td>746</td>
<td>46.2</td>
</tr>
<tr>
<td>Child's race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>1202</td>
<td>74.5</td>
</tr>
<tr>
<td>White</td>
<td>295</td>
<td>18.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>25</td>
<td>1.6</td>
</tr>
<tr>
<td>Other</td>
<td>91</td>
<td>5.6</td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>1520</td>
<td>94.2</td>
</tr>
<tr>
<td>Private</td>
<td>81</td>
<td>5.0</td>
</tr>
<tr>
<td>Self-pay</td>
<td>13</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*One patient with missing data (denominator was therefore 1613).

Table 2.
PRESENCE OF CERTAIN DEMOGRAPHIC CHARACTERISTICS AND CHRONIC CONDITIONS FOR THE 1,614 PATIENTS REFERRED TO CHILD HELP COMPARED TO THE ENTIRE POPULATION OF CLINICS A, B, AND C (N=28,200)

<table>
<thead>
<tr>
<th></th>
<th>N referred</th>
<th>% referred</th>
<th>% all clinic</th>
<th>P Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American race</td>
<td>1202</td>
<td>75</td>
<td>70</td>
<td>.0001</td>
</tr>
<tr>
<td>Public insurance</td>
<td>1520</td>
<td>94</td>
<td>85</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Chronic condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>457</td>
<td>28</td>
<td>19</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Elevated lead level</td>
<td>31</td>
<td>2</td>
<td>2</td>
<td>.8</td>
</tr>
<tr>
<td>Developmental delay</td>
<td>433</td>
<td>27</td>
<td>14</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>and/or behavioral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>disorder</td>
<td></td>
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*Chi square statistics.
reach the family or issue resolution without legal advocacy. The most common positive outcome involved advice to families regarding legal circumstances (e.g., escrowing rent, requesting school evaluation) (Figure 3).

Between August 2008 and December 2011, approximately 175 pediatric interns completed the new SDH curriculum during the Advocacy course, and 100 upper-level pediatric residents were trained during noon and pre-clinic conferences. Referrals were made by clinicians at all levels of training with 39% (N=712) from an attending
physician, 42% (N=760) from a resident, 12% (N=220) from a social worker, and 7% (N=116) from a nurse/medical assistant.

Although cases were initiated for 1,614 individual patients, the impact extended to an additional 3,861 children and 1,927 adults living within referred households. Legal advocacy translated to nearly $200,000 in actual recovered back benefits.

Discussion

High-functioning collaborative partnerships between PCSs and community agencies can address pervasive socioeconomic and environmental determinants of health. We developed a collaborative relationship between an academic, pediatric PCS and an established community agency to provide a tangible intervention for high-risk patients while teaching SDH to the next generation of pediatricians. In our MLP’s first three years, 1,614 patients were referred for legal risks identified by all levels of clinicians during routine care. This led to more than 1,700 positive legal outcomes, including improvements in housing conditions, resumption of public benefits, implementation of appropriate educational services, and provision of valuable legal advice, affecting nearly 6,000 household children and adults. Back benefit recovery valued nearly $200,000, a number potentially dwarfed by future continuation of benefits. Child HeLP’s SDH-focused action represents a targeted approach to improving health outcomes for high-risk children and reducing disparities for those at highest risk.

Just as a primary care physician consults a clinical subspecialist for advice regarding a specific clinical question, it follows that the same physician could consult a community-based expert for socioeconomic or environmental issues. Thus, if the pediatric PCS is to improve and maintain child health, it must find community partners able to address the SDH. Given that many of these issues have legal remedies, legal and medical professionals are natural allies. Developing such a partnership took time and has benefited from passionate programmatic champions, a clearly defined mission, consistent formal and informal communication, and mutual respect. Key stakeholders at LASGC and the CCHMC PCSs remain involved and informed, and we firmly believe the community agency and PCSs are equal partners.

Child HeLP led directly to positive legal outcomes for those referred, consistent with previous MLP accounts. Given known associations between SDH-related legal risks and health outcomes, we expect that these positive legal outcomes will positively influence health outcomes. Prevalence of certain chronic conditions (e.g., asthma, developmental delay/behavioral disorder) was higher among those referred than our already high-risk clinic population. Thus, those referred may have even more to gain from Child HeLP assistance. Indeed, MLPs represent upstream interventions that can have lasting downstream effects on the SDH, potentially improving health and reducing disparities.

Connecting at-risk patients and households to appropriate resources required those on the front line to understand the rationale and process for such connections. The SDH-focused curriculum filled an educational gap and complemented MLP implementation, contributing to improved social screening by residents. Increases in the
numbers of families referred to Child HeLP followed with the pattern in risks identified reflecting the topics covered in the new curriculum. Since resident continuity clinics care for a preponderance of complex patients,26 we believe that successful educational interventions must be strongly linked with resources to maximize their effectiveness.29

Limitations. Child HeLP was implemented in a PCS with excellent on-site resources. Our findings may not be generalizable to settings with different resources. The majority of referrals were for housing, public benefits, and education, three topics emphasized during resident training. It is possible that the identified risks are over-represented by those topics. We are currently incorporating other topics (e.g., domestic violence) which may affect future referral distribution. Data extracted from the EMR to assess a patient's chronic conditions may be inaccurate, as providers must add diagnoses to the problem list. However, we expect that the misclassification bias introduced by this data extraction, when comparing Child HeLP referrals with the patient population at large, would be non-differential and may under-represent actual condition prevalence. Finally, we are not yet able to identify the program's impact on health outcomes, but expect that given the well-established connection between social risks and health outcomes, mitigating such risks will improve health.

Conclusion. Implementation of a high functioning collaboration between pediatric primary care providers and community agencies can address pervasive and influential socioeconomic and environmental determinants of health. Such collaboration requires careful planning, partnership building, and constant, clear, and consistent communication between organizations. MLP implementation in an academic setting also benefits from collaborative and innovative education, and the promotion of risk screening and identification. By refining the path from clinical social history to community intervention, we are able to maximize the potential positive impact for children and families.

Notes
Initial outcomes from a successful medical-legal partnership


