

A Road Map to Address the Social Determinants of Health Through Community Collaboration

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Economic, environmental, and psychosocial needs are common and wide-ranging among families cared for in primary care settings. Still, pediatric care delivery models are not set up to systematically address these fundamental risks to health. We offer a roadmap to help structure primary care approaches to these needs through the development of comprehensive and effective collaborations between the primary care setting and community partners. We use Maslow's Hierarchy of Needs as a well-recognized conceptual model to organize, prioritize, and determine appropriate interventions that can be adapted to both small and large practices. Specifically, collaborations with community organizations expert in addressing issues commonly encountered in primary care centers can be designed and executed in a phased manner: (1) build the case for action through a family-centered risk assessment, (2) organize and prioritize risks and interventions, (3) develop and sustain interventions, and (4) operationalize interventions in the clinical setting. This phased approach to collaboration also includes shared vision, codeveloped plans for implementation and evaluation, resource alignment, joint reflection and adaptation, and shared decisions regarding next steps. Training, electronic health record integration, refinement by using quality improvement methods, and innovative use of clinical space are important components that may be useful in a variety of clinical settings. Successful examples highlight how clinical-community partnerships can help to systematically address a hierarchy of needs for children and families. Pediatricians and community partners can collaborate to improve the well-being of at-risk children by leveraging their respective strengths and shared vision for healthy families.

Pediatricians and primary care centers embrace the importance of identifying and acting on the economic, environmental, and psychosocial needs faced by their patients and families. Early recognition and action on these social determinants of health (SDH) are increasingly seen as critical, given their known impact on morbidity and mortality.¹⁻³ The related toxic stress model suggests that adverse childhood events often rooted in the SDH disrupt physiologic processes and cause such experiences to "get under the skin."

This places children at risk for adverse health and developmental outcomes that can persist into adulthood.^{4,5}

Defining, identifying, and mitigating these toxic stressors could therefore promote childhood resilience, positive development, and health later in life.

There are increasing calls to reshape pediatric care to better address the SDH. The American Academy of Pediatrics has outlined principles of patient- and family-centered care that include supporting and empowering children and families across the life

abstract

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course.⁶ Recommendations highlight collaboration between members of the health care team, including subspecialists and families.^{6,7} Others go beyond health care-centric recommendations and support extension into the community.⁸ Garg et al⁹ suggest that the SDH may be better addressed by a community-based health neighborhood that redefines traditionally nonmedical services as key to a high-performing, health-promoting system. Despite these calls, there are few practical guides on how to identify needs and intervene in a systematic way.

Programs have been developed recently to directly meet patient and family needs. Medical-Legal Partnerships (MLPs) are promising clinical-community collaborations that address problems with housing, public benefits, and education.^{10,11} Other community programs that have been rooted in the clinical setting address access to high-quality preschool (eg, Head Start),¹² adult mental health services,¹³ and nutrition, including the Special Supplemental Nutrition Program for Women, Infants and Children. These programs are bright spots in efforts to bring interventions to families to improve health and well-being over the long-term.¹⁴ However, they remain a patchwork of ad hoc services, not ordered systematically or built using a common road map of principles or strategies. Despite clarity about the preferred outcomes and desire to connect families to community services, an intervention road map and operational approach to get from theory to practice is currently lacking. Primary care could benefit greatly from such a road map that facilitates expanded clinical-community linkages and maximizes value of care provided.¹⁵

Here, we describe a road map that orders our thinking about economic, environmental, and psychosocial needs and coexistent assets, or protective factors, and offers

a systematic approach to building community partnerships. The steps detail how to (1) build the case for action through a family-centered risk assessment, (2) organize and prioritize risks and determine appropriate interventions, (3) develop and sustain interventions with key community partners, and (4) operationalize community-based interventions in the clinical setting. We illustrate the road map by using examples from our experiences. Our focus, however, is on systematically building collaborations and related interventions that are comprehensive, reliable, scalable, and fundable. The developed road map relies on principles that could be adaptable across a range of clinical settings that may vary in size as well as breadth of needs and resources.

BUILD THE CASE FOR ACTION: A FAMILY-CENTERED RISK ASSESSMENT

An important first step is to characterize the underlying needs of patients and families seeking primary care. A risk, or needs, assessment could provide critical information and help to build a case for action. This assessment also could facilitate the identification of community partners most likely to help one's patient panel.

This strategy of risk identification helped guide which community agencies we sought to work with and the content of conversations with those potential partners. Our Pediatric Primary Care Center (PPCC) is a large, urban, academic medical practice housed within Cincinnati Children's Hospital Medical Center's Division of General and Community Pediatrics. The PPCC is the medical home for ~15 000 children. It is also the continuity clinic site for roughly 80 pediatric residents and the third-year clerkship site for 50 medical students annually.

Early on, a needs assessment was conducted anonymously with parents in the PPCC waiting room. Questions

were developed to provide an objective understanding of risks present but not routinely addressed. This surveying crystallized what our clinicians suspected. Many of our patients and families, as in other academic clinics, federally qualified health centers, and pediatric primary care practices, faced multiple economic, environmental, and psychosocial hardships (or potentially toxic stressors). Similar surveys could be deployed in other settings in ways that are adapted to the perceived needs and potential resources available.

Our early surveying focused on those basic needs at the base of Maslow's Hierarchy, needs seen as a critical starting point (see later in this article and Fig 1). We found that 29% of respondents reported experiencing poor housing conditions (eg, presence of cockroaches or mold) and 20% reported they did not buy medications for themselves or their children because of financial reasons (previously unpublished data). This aligned with frequent risks identified during standard care processes.¹⁶ Further surveying on food insecurity found that >30% of PPCC patients were living in food insecure households and 15% of families with infants had stretched their infant's formula.^{17,18} In short, those basic needs present at Maslow's base (eg, limited access to health care and food, housing insecurity) were highly prevalent among the children seeking care at our primary care center.

These data helped to foster a collective sense among our clinicians, nurses, and social workers that the purview of a pediatric practice should include addressing these risks, and risks farther up the Hierarchy (eg, challenges to parenting, unemployment), if our ultimate goal is to improve child health. Given that we were not equipped to address these needs on our own, we turned to community-based organizations that could

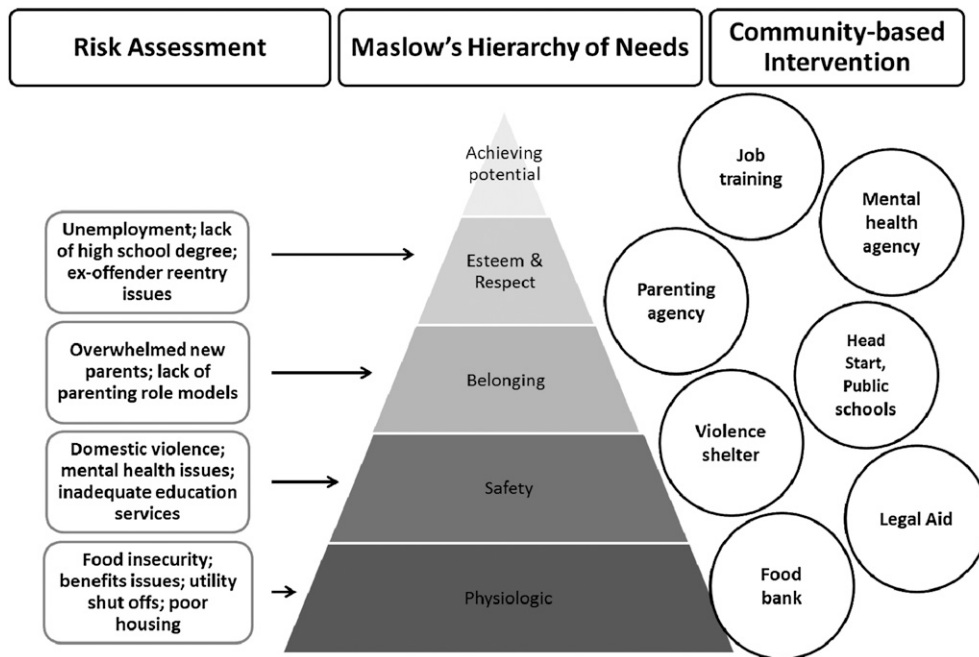


FIGURE 1

Conceptual road map that links risk assessment to community-based interventions using Maslow's Hierarchy of Needs.

augment the medical care we provided with expert social care.^{10,19} The background information obtained helped shape early conversations and eventual collaborative interventions. We anticipate that an awareness of so many families with defined social risks to child health would prompt similar clinic-community conversations across a variety of settings.

ORGANIZE AND PRIORITIZE RISKS BY USING MASLOW'S HIERARCHY OF NEEDS

Maslow's Hierarchy of Needs has proven a powerful structure easily recognized by those who work in varied settings and disciplines. Importantly, it provides an ordered structure to help the clinical team organize and prioritize interventions (Fig 1).^{20,21} Maslow's Hierarchy highlights several levels of human needs thought to be essential to achieving one's full potential represented at the apex of the Hierarchy. Such needs include fundamental physiologic requirements (eg, health, food, and

shelter), safety, belonging, and esteem and respect.²⁰ Many low-income families experience risks at multiple levels of this Hierarchy, risks that can have an undeniable impact on health and development.^{22–24} Families confront issues related to food and housing insecurity at the base of the Hierarchy, as well as issues related to unemployment and lack of parenting support higher up on the Hierarchy. As we began to develop community interventions to address PPCC families' needs, Maslow's Hierarchy helped our team prioritize the risks we needed to focus on first and map them to appropriate interventions to more effectively help children reach their full potential.

Given that pediatricians may be unable to directly intervene, strong partnerships with effective community agencies are essential. Often, primary care practices and community agencies share common goals for the well-being of their targeted populations. Maslow's Hierarchy may give clinical-community collaborators a common language to guide their prioritization of interventions. In this way, primary

care practices and clinicians can move beyond a traditional, often ad hoc, medical referral model by building partnerships with community experts. These experts often share a vision for healthy families and have complementary missions that directly address health-related needs that are present from the bottom to the top of the Hierarchy.

DEVELOP AND SUSTAIN COMMUNITY-BASED INTERVENTIONS

To succeed, clinical-community collaborations require agreement around goals, leadership and resource alignment, a plan for sustainability, clear communication, and processes that support sharing and collaborative use of data.^{25–27} Himmelman²⁸ notes that collaborative partners should enhance each other's capacity for mutual benefit (eg, improve the pediatrician's ability to provide care and offer the community agency unique access to a population that will benefit from its services).

With this in mind, primary care centers can build high-functioning

collaborations with community partners by using a phased approach (Fig 2). This approach begins by jointly defining a problem and articulating a shared vision.^{26,29} Development of an action plan and alignment of resources occur next. Time to then jointly reflect, adapt, and evolve the partnership is necessary, often bolstered by shared efforts to track and analyze data. Finally, identifying how to sustain and grow the partnership requires ongoing reassessment by both partners.

One successful illustration of this phased approach is the Cincinnati Child Health-Law Partnership (Child HeLP), an MLP between Cincinnati Children’s Hospital Medical Center’s primary care centers and the Legal Aid Society of Greater Cincinnati. Like other MLPs around the country,³⁰ Child HeLP aims to resolve legal issues common among families living in poverty (eg, substandard housing, denial of public benefits, intimate partner violence).³¹ Attorneys with

expertise in poverty law are natural allies for pediatricians caring for low-income patient families with multiple legal needs found at the bottom of Maslow’s Hierarchy.³² Our collaborative began with a shared vision of child and family well-being and the recognition that the 2 organizations served many of the same families (phases 1 and 2). An assembled team of staff from both organizations designed how to most effectively serve needy families. Three critical elements included starting small by piloting screening and referral procedures, strategizing about fund-raising and resource allocation, and using quality improvement methods and data sharing to track successes and refine service delivery (phases 3 and 4). Quality improvement methods are increasingly seen as relevant to both clinical care as well as health disparity mitigation.³³ As the partnership enters its eighth year, we are actively assessing referral

effectiveness, organizational capacity, and opportunities to expand to other clinics and populations (phase 5). Using this phased approach, Child HeLP has seen a steady rise in referrals, now >800 referrals annually from attending physicians, pediatric residents, and social workers. Many excellent outcomes for families have followed.^{10,34}

Child HeLP’s success has informed the development of other local partnerships that are moving their way through the aforementioned phases. Keeping Infants Nourished and Developing (KIND) was developed after physicians and food bank staff together defined the problem of food insecurity among households with infants seen in the primary care center and developed a plan that included a jointly written grant proposal to fund the purchase of formula (phases 1 and 2). Food banks are logical partners to help physicians address food insecurity, a lower-level, fundamental risk on

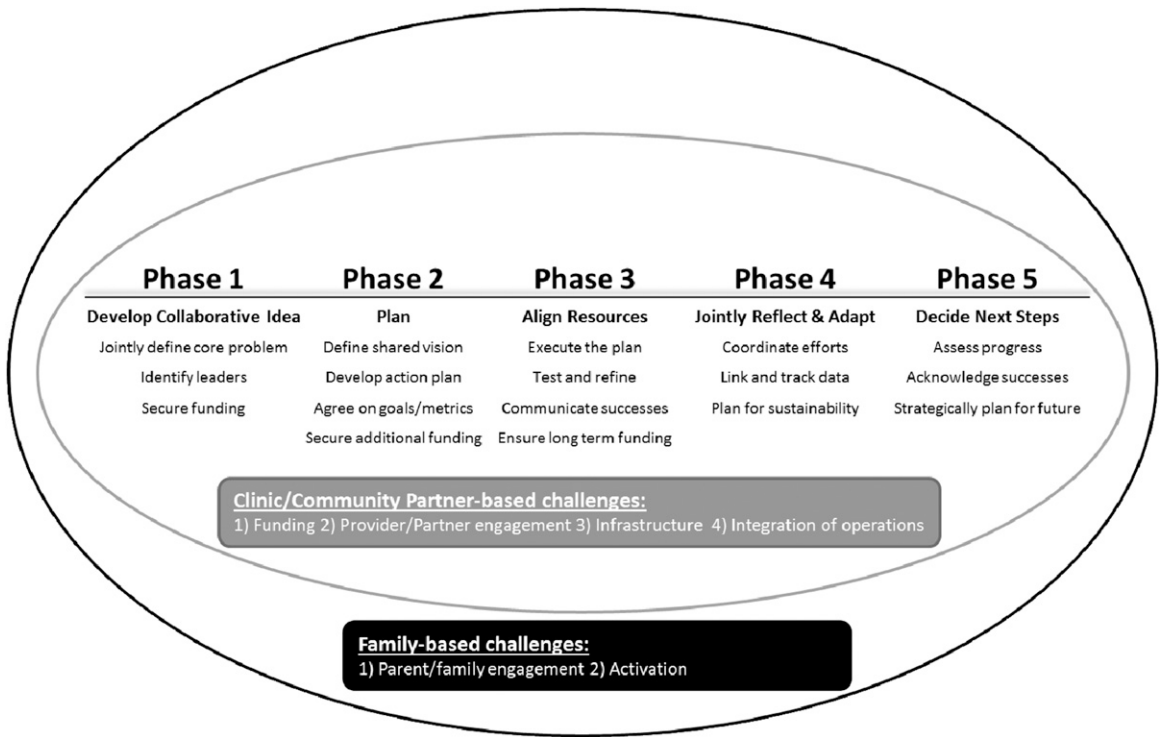


FIGURE 2 Phased approach to collaboration development with associated challenges. Adapted from Toolbox Overview for Building Needle-Moving Community Collaborations. Available at: www.serve.gov/sites/default/files/ctools/CommunityCollaborativeToolkit_all%20materials.pdf.²⁹

Maslow's Hierarchy.¹⁹ Donations of infant formula are now made to the PPCC and other local clinics from the Freestore Foodbank, the region's largest food bank. Leadership at both organizations strategized around long-term funding opportunities and data collection methods (phases 3 and 4). KIND has now assisted >1500 families through interventions from physicians, social workers, and dietitians.¹⁹ KIND has already spread to 11 regional sites, including local health department clinics with limited staff. This collaboration is currently entering phase 5 of the partnership, with an emphasis on potential expansion to additional regional and national pediatric primary care centers and subspecialty clinics.

Child HeLP and KIND address urgent needs and provide a strong platform on which to build more upstream interventions.³⁵ Additional partnerships to address the psychosocial needs represented on the higher rungs of Maslow's Hierarchy, those aimed at helping children and families achieve their full potential, could include community partners devoted to providing quality early child care and Head Start programs, job training and advancement, and General Educational Development programs.

We recognize that Child HeLP and KIND were developed in the context of a large academic medical center with excellent clinical resources and a strong community reputation for supporting low-income children and families. Our proposed road map must logically be adapted to account for contextual characteristics that affect the ability of clinics and community agencies to successfully collaborate.³⁶ For example, Child HeLP belongs to a national network of medical-legal partnerships that includes 127 legal aid agencies, many in small urban and rural areas.³⁰ KIND was born out of a partnership with a large food bank that is

a member of Feeding America, a nationwide network of food banks. Identifying a potential local partner around hunger might start by typing a local zip code into Feeding America's database of food banks.³⁷ Whether in a large hospital system or small private practice, primary care clinicians can begin by clarifying what they hope to accomplish with and for their patients, considering appropriate partners, and exploring relationships with those community agencies most able to help them achieve their goals.²⁷

Integration of clinical and community resources is especially timely in this era of health care reform when it is imperative that health care institutions innovate to address vulnerable patients' material and psychosocial risks and needs.²⁵ MLPs and nonprofit organizations like HealthLeads highlight the benefit of linking underserved populations to appropriate community resources.^{11,38,39} Just as a primary care physician might refer a patient to a clinical subspecialist to intervene clinically, the physician could similarly refer patients to community-based experts to intervene on behalf of economic, environmental, and psychosocial needs.^{32,40}

OPERATIONALIZE COLLABORATIVE INTERVENTIONS IN THE CLINICAL SETTING

To promote effective family engagement and partnership outcomes, primary care settings can focus on tailored provider training, optimal use of the electronic health record, routine goal-oriented evaluation, and innovative use of clinical space to enhance collaboration.

Provider Training

In our experience, clinical providers, including attending and resident physicians, needed further training that focused on SDH-related risk identification and referral to effective

resources. Most of the attending and resident providers believed that addressing hardships was important and relevant to clinical care. Still, many expressed discomfort with screening because few knew how to respond when hardships were identified.^{22,23} This led to the development of curricula that sought to improve knowledge of the SDH and community resources and enhance empathic social screening and risk identification.⁴¹⁻⁴⁴ Building knowledge and gaining buy-in from key frontline providers is especially important because most were not raised in families that faced the same poverty-related hardships as their patients.^{45,46} Training has led to documented changes in clinician behavior in our clinics, including increased referrals to key community resources, such as Child HeLP.^{41-43,45}

We focused on resident education because of our presence in an academic setting. Other practices may adapt education to their clinical environment, potentially focusing their training on frontline staff members who might be the ones identifying social needs and referring families to community resources. Each setting can determine how best to identify risks in an empathic, family-centered, and intervention-directed way.

Electronic Health Record Use

Primary care practices are increasingly using electronic health records in the care of their patients. Studies have demonstrated that the "meaningful use" of the electronic health record includes screening for risks related to the SDH.^{24,39,45,46} This integration of the SDH into the electronic health record also may facilitate an enhanced awareness of available community resources in ways that promote improved outcomes for patients and families.⁴² Determining which risks to screen for may follow from an early needs assessment of commonly identified risks.

Incorporation of screening questions into the electronic health record is likely to be most effective if screening becomes a routine part of clinic workflow. In our setting, electronic health record–based questions related to the SDH are built into our well-child care templates and now serve as an additional prompt to facilitate more consistent screening. This integration also allows for a more reliable data tracking system that facilitates better evaluation of existing and budding new partnerships.

Evaluation

Consistent evaluation by using shared data, whether tracked in the electronic health record or by other means, can further the shared vision of both partners to improve families' health and well-being. With respect to ongoing quality improvement, active data tracking of key process measures (eg, families referred being successfully handed off to community partners) can help ensure that the intervention is reaching those it is supposed to reach. Active data tracking also provides an opportunity to address systemic issues affecting low-income families that otherwise would go undetected or without remedy. For example, physicians and Child HeLP attorneys worked together to identify and treat a large cluster of poor-quality, substandard housing, resulting in improved living and building conditions.³⁴ As multiple referrals were made for specific housing complaints, attorneys were able to identify a pattern: multiple similar complaints were coming from buildings managed by the same developer. Building-wide housing improvements were made, and made more quickly, because of the examination of referral data by both partners. Strong collaboration among clinicians, attorneys, city agencies, and families facilitated treatment of the community alongside treatment of the child. Like others, we are currently exploring additional

innovative ways that use shared data to highlight and map where and when resource allocation could be most impactful.^{47,48}

Innovative Clinical Space

Clinical space and workflow may hinder family engagement and clinical-community collaboration.⁴⁹ Given considerable down time throughout primary care visits, especially in the waiting room, a redesign of the waiting room to enhance access to community resource information could benefit families. The primary care setting offers unique access to children and parents in an environment that fosters trust and communication.⁴³ A key benefit may be that families view the clinic as a place to share needs and find solutions. Strategies to link families to the community could include technology-based platforms that facilitate bidirectional communication (eg, with Skype) with key community-based partners. Input from families and community partners is essential in shaping these efforts.

CHALLENGES

Clinical-community partnership development is not without challenges. Cross-institutional collaborations require reliable funding streams. Funders are often highly supportive of the creativity and efficiency of such collaborations and will embrace the potential for enhanced impact. With health care payment reform increasingly focused on outcomes rather than volume, we anticipate greater future support for programs that reduce disparities in health outcomes.⁵⁰ For example, funding through Accountable Care Organizations could be possible should clinical-community collaborations be found to be cost-effective. Clinics without the time or resources to pursue collaborative fund-raising (eg, joint grant proposals with potential partners) might

consider how to identify patients likely to benefit from already existing programs within their community.⁵¹

A second key challenge is engaging families and clinicians in a broadened focus on the SDH during standard clinical care. Many families come to the primary care center for immunizations, check-ups, and completion of school forms. Similarly, many clinicians focus their attention on health maintenance requirements. Repeated interdisciplinary focus on clinician empathy and training along with embedded social history prompts in the electronic health record have proven beneficial to both family and provider engagement, improving rates of screening, identification of hardships, and interventions implemented.^{24,41,43}

Ensuring action as well as follow-through is a third key challenge. When referrals are placed for subspecialty consultation, many patients never go, and feedback loops to confirm follow-through rarely exist.⁵² Referrals from clinic to community resources face similar challenges. Child HeLP has benefited from "warm handoffs" to legal advocates in the clinic as well as enhanced efforts to ensure clinicians can describe to families the services provided (eg, via jointly developed brochures and sharing of results about the benefits families have received as a result of the program).⁵³ Our participating clinics and partners at the Legal Aid Society of Greater Cincinnati share monthly data to examine rates of follow-up and discuss ways to make the referral process more effective. At the core of such practices are relationships built between clinical and community settings.

The forging of a new cross-institutional relationship and integration of distinct operations is inherently challenging. Time is needed to develop trust and to identify whether and how partnering can be beneficial. Plans around space

(and whether colocation is possible) and workflow are required, necessitating continual assessment, especially in phases 2 and 3. This ongoing evaluation can promote constant innovation. For example, we quickly found that referrals to community agencies would be more effective if made in similar ways to clinical subspecialty referrals. We have now developed connections from the electronic health record directly to legal advocates, health department housing inspectors, and early intervention programs.^{51,54} With constant innovation, however, comes the need for continued training of key personnel who assess risk and refer families to resources. Community partners can be active instructors in these trainings (eg, in a pediatric residency's advocacy rotation or primary care curriculum).

CONCLUSIONS

Economic, environmental, and psychosocial hardships affect health in ways that can alter a child's life trajectory. Toxic stressors, or adverse events and experiences that occur during childhood, can limit a child's ability to reach his or her full potential. Primary care providers are a nearly universal contact point for families in need, presenting providers the unique opportunity to support families' overall health and well-being. Much as providers connect medically complex patients to a medical expert, so too can providers connect patients and families with social complexity to a community-based expert well poised to provide preventive social care in concert with preventive medical care. A planned, stepwise, collaborative approach can make such partnerships effective, comprehensive, and sustainable.

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ABBREVIATIONS

Child HeLP: Child Health-Law Partnership
KIND: Keeping Infants Nourished and Developing
MLP: Medical-Legal Partnership
PPCC: Pediatric Primary Care Center
SDH: social determinants of health

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