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Field Report: Lessons from the Patient-Reported Outcomes in Primary Care–New York Collaborative Participants

Montefiore Health System

Anne-Marie J. Audet, MD, MSc, SM, Senior Medical Officer, Quality Institute, United Hospital Fund

Roopa Mahadevan, MA

Barbara K. Hackley, PhD, CNM, Director, Resiliency Initiative, Montefiore Health System

Amanda Parsons, MD, Vice President of Community & Population Health, Montefiore Health System

Nicolette Guillou, MPH, Senior Project Manager, Montefiore Health System

The Patient-Reported Outcomes in Primary Care–New York (PROPC-NY) collaborative, developed by United Hospital Fund, brought together three innovative health care organizations to consider a critical question: how can providers shift their focus from what is done for patients during a visit to what happens to those patients as a result. Over the course of 18 months, the Institute for Family Health, Montefiore Health System, and Northwell Health launched a major effort to find answers. The Institute for Family Health sought to improve patient goal-setting related to social determinants of health, Montefiore focused on improving families' ability to manage social and economic health stressors during pregnancy and the first year of a child's life, and Northwell aimed to improve patients' depression symptoms and physical function. After identifying appropriate patient populations, they selected or developed appropriate tools for eliciting feedback from patients on what prompted them to seek care and what outcomes or goals matter to them most. They also developed processes for consistently collecting, analyzing, and acting on the patient-reported data. Their efforts yielded many discoveries about patient-reported outcomes, or PROs, that were both conceptual and practical.

The following field reports build on a variety of assessments over the course of the initiative: each team's end-of-project self-evaluation, including surveys of health care team members and patients, patient focus groups, and chart reviews to assess the reliability of the processes developed to collect, use, and track PROs; four structured interviews of each team by UHF staff and project faculty; and team presentations during three, day-long meetings of learning collaborative participants.

This publication is part of a collection of resources that grew out of a United Hospital Fund initiative to examine the role and value of patient-reported outcomes in primary care. It includes an implementation guide, three field reports, and an overview of implications for practice and policy.

Montefiore Health System: Stress Level as Patient-Reported Outcome in Safety-Net Primary Care Practice

Two primary care sites in the Montefiore Health System—South Bronx Health Center (SBHC) and its extension site, the Center for Child Health & Resiliency—participated in PROPC-NY. They piloted a customized questionnaire designed to assess patient-reported stress related to various social determinants of health among pregnant women and newborns and families. The two sites deliver primary care to some of the most vulnerable patients, including new immigrants and homeless populations. Collectively, they provide comprehensive care to approximately 8,000 patients per year. This population comprises children and families living in the South Bronx, one of the nation's poorest Congressional districts. The providers' experience sheds light on opportunities to leverage PROs to support a broader population health strategy in primary care.

Compelled by strong evidence linking early childhood experiences to cognitive, social, and health outcomes later in life, Montefiore sought to achieve two goals: 1) ensure a healthy pregnancy for women cared for in the prenatal obstetrics-gynecology clinic, and 2) safeguard child and parent health in the 15-month post-partum period while families remain under the care of the pediatric team. In line with the organization's mission, the team set out to comprehensively assess and reduce patient stress levels related to critical concerns, such as housing, divorce, and food insecurity. Leadership was interested in seeing the longer-term impact of reduced stress levels on other significant patient health outcomes (e.g., glycemic control, blood pressure control) and on health care utilization.

Integrating PROs into clinic visits

To inquire about patients' stress levels related to a set of concerns—housing, finances, food insecurity, legal issues, relationship and family stress, child care, substance use, and exposure to violence—Montefiore refined an existing Social Determinants of Health Stressor (SDH-Stressor) list that had been in use for several years as part of pre- and post- natal visits. This 15-question screening tool, which had been validated against PHQ-4 scores, was adapted into an 11-question tool (Figure 1) and integrated into the electronic health record (EHR), EPIC. It was administered on paper to all pregnant women during their prenatal visits and to parents at 4- and 15-month pediatric visits. Care team staff began entering the screening results into EPIC, enabling richer documentation of patient needs.

To help staff query patients using the stressor questionnaire, Montefiore gave them detailed training materials, including scripted tips for front-desk attendants and approaches for handling difficult situations. Regular debriefing sessions were also scheduled to address problems as they arose and to share best practices. To frame conversations, staff were trained to apply a growth mindset

Figure 1. Social Determinants of Health Stressor Questionnaire

How much stress do you have from these problems?

	No Stress	Some Stress	A Lot of Stress
Housing problems (being homeless, housing has mold, rodents, peeling paint, moving, etc.)	☐	☐	☐
Financial problems (being unemployed or finding it hard to pay the bills)	☐	☐	☐
Legal problems	☐	☐	☐
Loss of a close family member or friend (separation, divorce, incarceration, moving to a new city or country, death, etc.)	☐	☐	☐
Seeing or being involved in violence in the home (slapping, hitting, kicking, punching)	☐	☐	☐
Seeing or being involved in violence in the neighborhood	☐	☐	☐
Living with a partner or family member with depression and other mental illness, including drug or alcohol problems	☐	☐	☐
Getting along with partner, spouse, or family members	☐	☐	☐
Not having enough food to last the month	☐	☐	☐
Needing help with child care or care for an elderly or sick adult	☐	☐	☐
Difficulty getting to your medical appointment or picking up prescriptions	☐	☐	☐

Source: Montefiore Health System

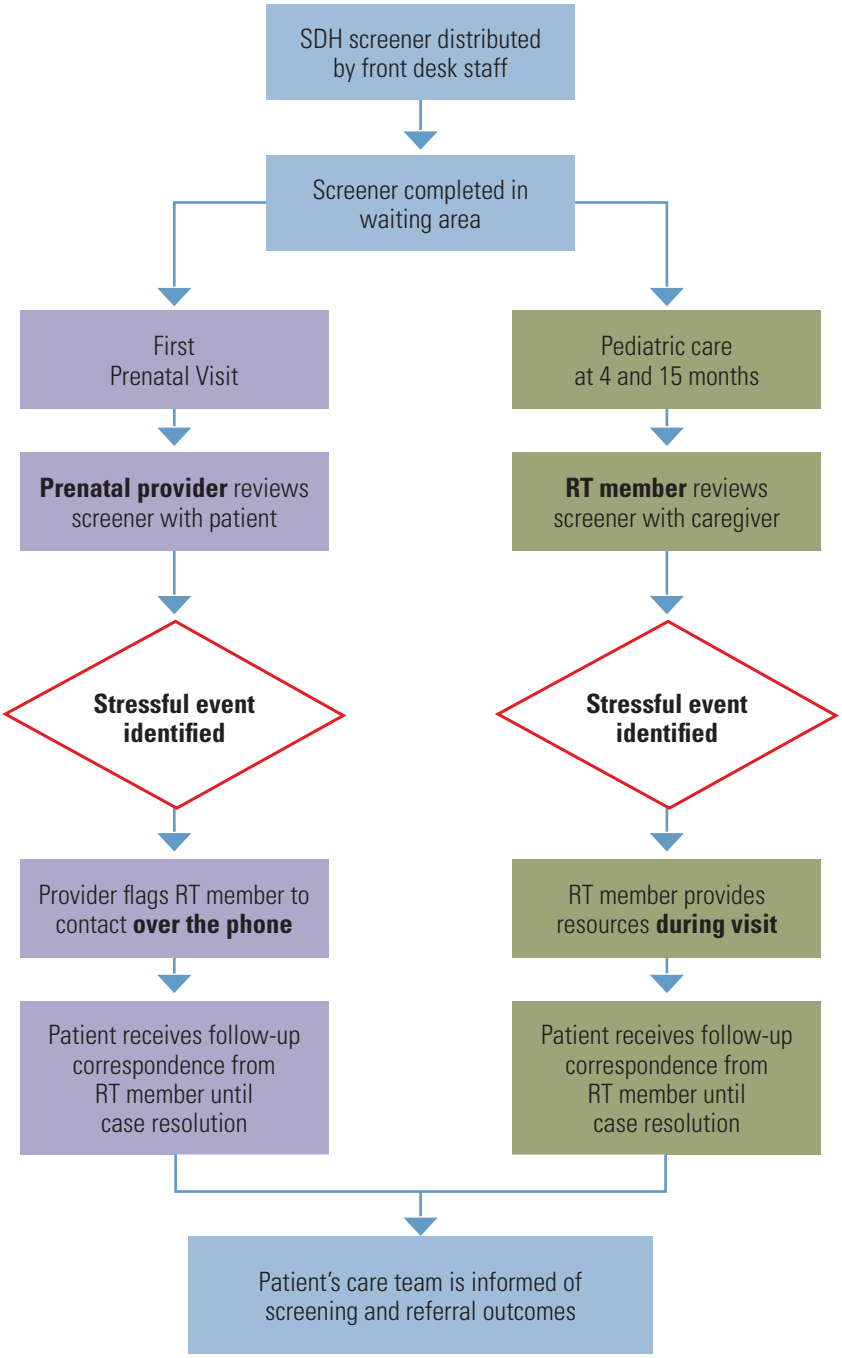
model, beginning with the validation of patients' stress levels, moving to a focus on their strengths, and then delving into the challenging stressors.[1]

To implement patient-reported outcomes, Montefiore created and refined their clinic workflow (Figure 2). During a visit, the patient would interact with several team members, including front-desk staff, physicians, nurse practitioners, midwives, and "resource team" members (social workers and case managers). Each played a specific role to ensure that patient-reported information was collected, made available for use in provider-patient discussions, recorded in the medical record for future use, and incorporated into the development of interventions and follow-up actions. To ensure that time with a physician was spent efficiently—and that the value of having a multidisciplinary staff was fully realized—the team sometimes used a co-visit model. This meant that a member of the resource team would coordinate with the prenatal provider or pediatrician to jointly meet with the patient.

Capturing the SDH results in the EHR not only enabled better documentation of patient-specific problems—it also facilitated population health level tracking and reporting. This allowed the tracking of screening rates over time and identified which stressors were affecting which patients; it also helped the team think about broader strategies to address population-level social and wellness needs.

1 Dweck CS. *Mindset: The New Psychology of Success*. New York: Random House (2006).

Figure 2. Montefiore's Patient-Reported Outcomes Workflow Map



Source: Montefiore Health System

Collaborative Findings and Lessons

Montefiore's pilot provides several insights into the experience and impact of PRO implementation from the perspective of patients and the broader health care team. The findings described below are based on surveys of patients (pregnant women and families of newborns) and clinic staff (physicians, the behavioral health team, case managers/social workers, patient registrants) as well as chart reviews and structured interviews with the multi-disciplinary team that were conducted by United Hospital Fund project staff.

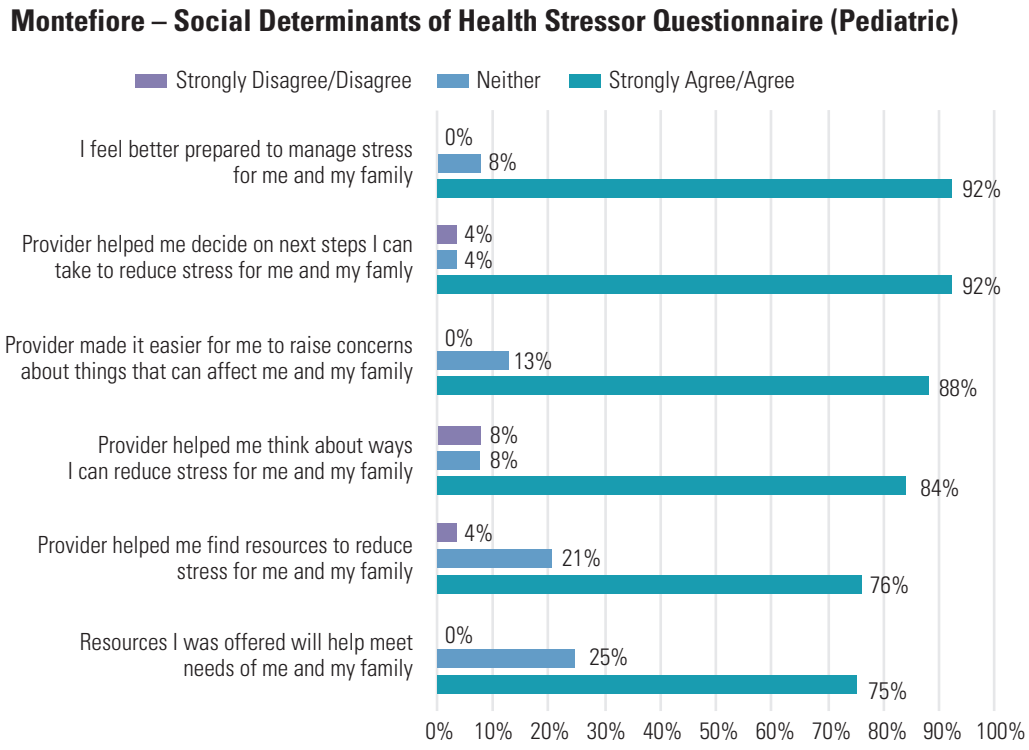
The Patient Perspective

Overall, patients had positive views about answering questions regarding social health stressors; 100 percent reported that clinic staff subsequently discussed the questionnaire results with them.

> *"They asked questions, and the doctor took the time to look over the answers with me. They always find a way to meet my concerns."*

As shown in Figure 3, the families of pediatric patients reported that the use of the social health stressor questionnaire helped them decide on next steps to reduce stress and made them feel better prepared to manage stress (92 percent for both); it also made it easier for them to raise concerns (88 percent).

Figure 3. Family (Pediatric Practice) Responses



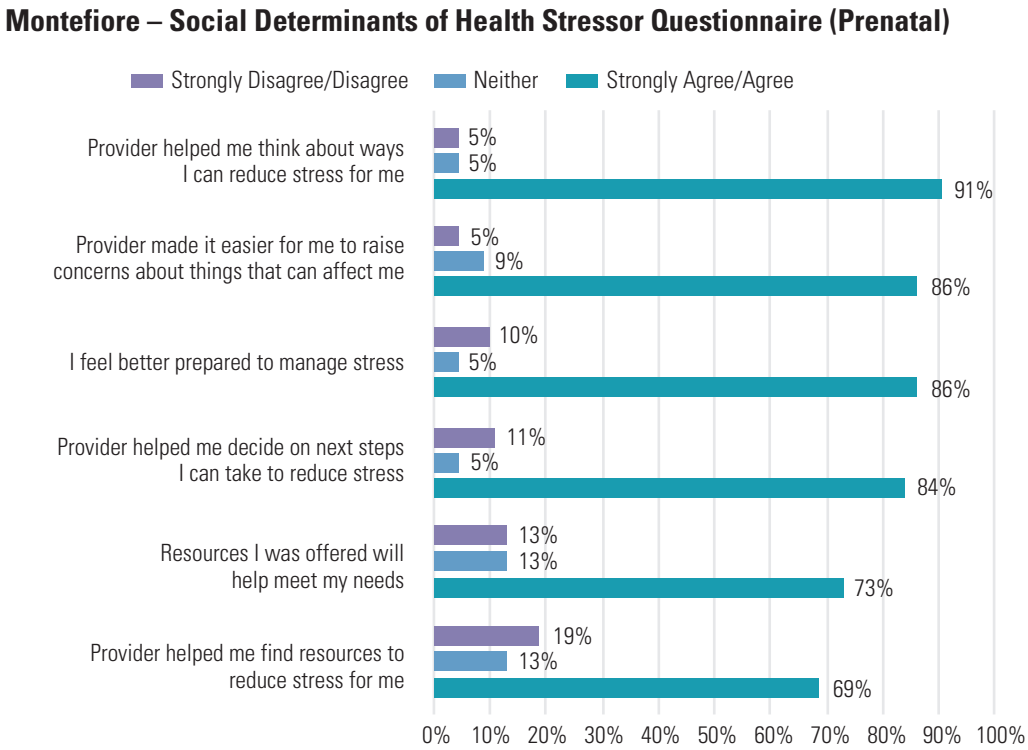
"I had so much stress and anxiety from pregnancy, and now I am less stressed thanks to Montefiore."

More than a quarter of pediatric patient families (76 percent) indicated that the questionnaire helped them find resources after they left the clinic, and 75 percent said these resources would help meet their needs. However, since patients were surveyed at the end of a visit, many had not yet experienced a follow-up with external resources. Still, patients understood that follow-up would happen and might not be a one-time event.

"They helped me with my housing situation. We are still resolving it… we're not done."

Pregnant women had similar perspectives on how the practice helped them handle stress (Figure 4) but were less confident about finding resources after they left the health center (69 percent) and whether these resources would meet their needs (73 percent). This lower number may be partly explained by differences in services for the two populations: pediatric practices provide on-site resources (e.g., a food pantry, diapers), while prenatal practices do not, mainly relying on referrals to outside organizations (and thus introducing potential delays and uncertainty).

Figure 4. Prenatal Patient Results



The Health Care Team Perspective

PRO questionnaire administration, data collection, and documentation. All staff reported that the training and standardized use of the PRO questionnaire empowered them and supported their goal of reducing variation in how, and what kind of, information is elicited from patients.

> ***"We ask everyone the same questions; we do not look at someone and decide that they should get those Q's and not others!"***

> ***[The questionnaire promotes] "a practice philosophy that even if the person asking for important info may not be the one who can fully help address it, that person is confident that s/he can find the right resources and person to do so."***

Staff did, however, note the need for dedicated meeting time to review and share findings among team members. To avoid burn-out, they also said it was important to be mindful of concurrent initiatives as well as the number of quality measures for which teams are accountable.

Another caveat related to questionnaire administration involved technology. Although staff explored the use of tablets and patient portals to facilitate and automate the process, they found that a lack of interoperability with EPIC made this approach too complex for the near term.

> ***"We'd have to manually transcribe data from the tablet to the EMR."***

The team was successful, though, in incorporating screening results into the EMR and developing longitudinal monitoring assessments on the stressors affecting patients' outcomes. These monthly screening reports allow the team to track the prevalence of stressors over time and design broader strategies to address the clinic population's social service needs.

Staff found that collecting outcomes for the purpose of following up with patients on the impact of relevant interventions was both rewarding and challenging.

> ***"…[hearing] the outcome from the patient is the most rewarding part. [I feel] success when Mom has stopped smoking, has been able to get diapers, or got into therapy."***

The team was most successful in collecting PROs from prenatal care patients. Since their visits took place at regular intervals throughout their pregnancies, it was easier to track them and identify any red flags. Pediatric visits are less frequent, and reliable follow-up on PROs was more difficult; tracking outcomes of referrals—getting information from either the parent or outside agency—was

also much more challenging, requiring intense focus and time to keep tabs on families in the community. The team explored several ways to close the feedback loop more efficiently.

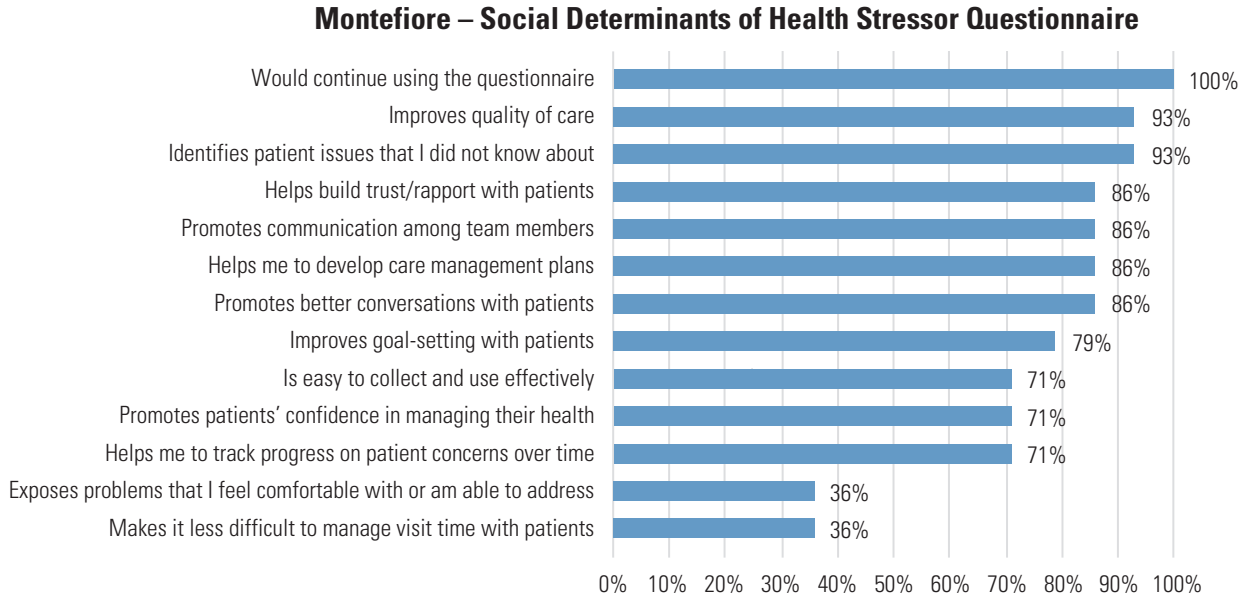
Use of PRO questionnaire information. A team survey revealed overwhelming support for the use of PRO information in patient interactions (Figure 5). Team members unanimously agreed that they would continue using the social health stressor questionnaire. Large majorities felt it helped improve the quality of care, identify patients' issues, facilitate conversations, establish trust, and develop care plans. Nearly three-quarters of respondents believed that the PRO questionnaire helped promote patients' confidence in their own ability to manage their health and also enhanced the provider team's ability to track progress over time (71 percent each). Only a minority (36 percent) felt the questionnaire exposed problems they felt comfortable addressing or that it made managing visit time with patients easier.

Several staff members commented that PROs streamlined visits and expedited the gathering of basic patient histories, thereby allowing providers to engage in deeper conversations about stressors and set specific goals with patients.

> ***"It allows staff to acknowledge the 'elephant in the room' [and] opens up the conversation."***

> ***"The information validates what patients come to see you for; patients are so used to hearing, 'You deal with it, OR, you deal with it!' That is not what we are about."***

Figure 5. Health Care Team Survey Results



Compared to prenatal staff, those in pediatrics found it more difficult to integrate findings from the stressor questionnaire into routine visits. Pediatricians remarked on the increasing burden they and their patients faced regarding child care visit screening requirements.

> ***"My only critique is that the SDH questionnaire is one more thing that parents have to complete along with ASQ-SE and MCHAT-R, [which] makes visit time somewhat difficult at times. It may also be overwhelming for the parents."***

The use of PROs bolstered staff collaboration by enhancing training and adjusting workflows to foster a greater awareness of each staff member's role in screening for stressors as part of care delivery. Clinicians gained a greater understanding of, and appreciation for, resource team members who provided support for the screening process and made connections with services based on the care plans clinicians had developed with their patients.

Insights on Implementing PROs in Primary Care

Montefiore's experience provides insights on two particular aspects of implementing PROs: 1) in-house development of a PRO questionnaire focused on stress as outcomes, and 2) the use of patient-reported outcomes to inform a population health strategy.

Creating a PRO Instrument to Assess Stress Related to Social Determinants of Health

Perceived stress in pregnant women and parents of young children is strongly related to poor emotional and physical health outcomes, such as prematurity, low birth weight, and sub-optimal child development. But few short, validated instruments are available to measure these outcomes in clinical practice.[2]

To better understand sources of stress that span a host of economic, social, and personal factors, practice leadership tasked their measurement group with creating a questionnaire that would assess not only the presence of such circumstances or events but also the level of stress associated with these issues. The overall goal was to track these levels over time in response to interventions.

2 Graignic-Philippe R, J Dayan, S Chokron, A-Y Jacquet, and S Tordjman. Effects of prenatal stress on fetal and child development: A critical literature review. *Neuroscience & Biobehavioral Review* 43:137-162 (2014). https://www.sciencedirect.com/science/article/pii/S0149763414000797?via%3Dihub.

The questionnaire was developed using the theory of stress and coping proposed by Lazarus and Folkman.[3] The measurement group first tested a 5-point Likert scale to assess the severity of stress but found that it was too confusing to respondents. The group also determined that dichotomous, yes-or-no answers were not sufficiently informative. The final instrument, the SDH-Stressor List, consisted of an 11-item questionnaire on stress related to the following factors: housing, finances, food insecurity, legal issues, relationship and family stress, child care, substance use, and exposure to violence.[4] It used a 3-point response scale (no stress = 0, some stress = 1, a lot of stress = 2) to create a stress sum ranging from 0 to 33. The measurement group determined the instrument's reliability and validity by comparing scores it elicited with those from other validated instruments measuring depression/anxiety, perceived stress, stress management, and social support.[5] The new SDH-Stressor questionnaire was used by the PROPC-NY team with pregnant women during their prenatal visits and with parents during their 4- and 15-month pediatric visits.

Montefiore's unique contribution demonstrates the value of reconceptualizing social determinants of health, so they can be addressed within a primary care context—especially one that relates to vulnerable populations. To date, SDH have yet to be widely seen as modifiable health stressors that can be addressed by health care teams and assessed as outcomes. Instead, they are typically viewed as patient characteristics and risk factors that may or may not be modifiable and that may not be in the purview of health care providers. Montefiore's approach suggests that when SDH are viewed as health stressors, they can be reframed as outcomes and that patient-reported stress intensity can be measured over time. This approach more closely ties SDH to clinical considerations of stress and well-being. The team's experience underscores the need to fill a critical gap in the PRO measurement enterprise, which has primarily focused on outcomes and measures related to discrete symptoms, conditions, and diagnoses (e.g., pain, orthopedic surgery, cancer).

Using Patient-Reported Data Strategically to Manage Population Health

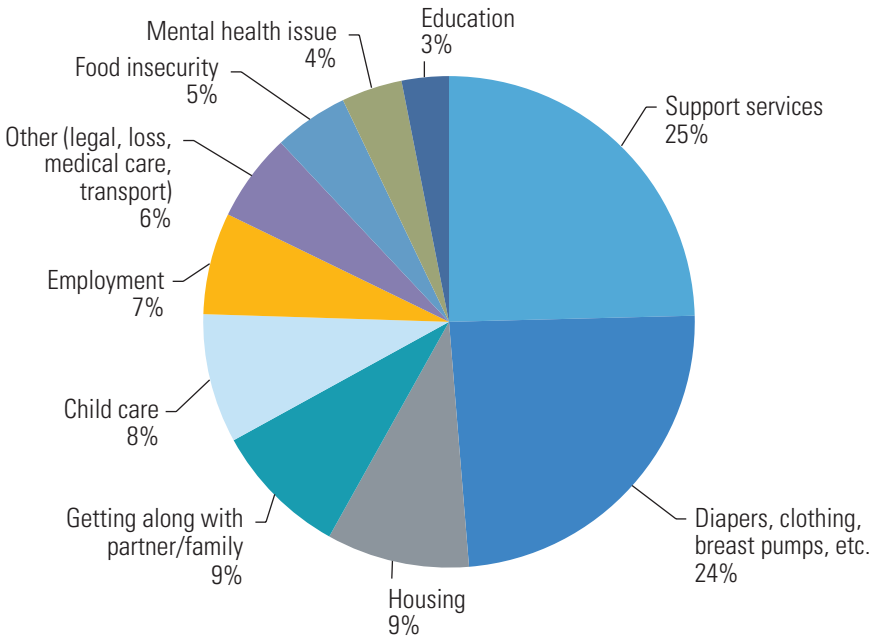
Montefiore Health System has a strong track record of innovative interventions for its clinically and socially complex patient populations. The PROPC-NY team built on the system's culture and mission to use PRO data to manage and support population health. By creating a questionnaire for routine use with a broad group of patients, the team could gather population-level data and

3 Lazarus RS and S Folkman. *Stress, Appraisal, and Coping*. New York: Springer Publishing Company (1984).

4 Hackley B, A Hoffman, M Kavanaugh, M Stange, M Aviles, and A Shapiro. Development of Patient-Reported Outcome Instrument for Social Determinants of Health. Poster Presentation at PROMIS IN ACTION: Clinical and Research Implementations/Implications (annual conference) (2017).

5 Applebaum J, B Hackley, and A Shapiro. Screening for Stressors and Strengths at a Community Health Center in the South Bronx. Presented at the 142nd APHA Annual Meeting and Exposition, New Orleans (2014).

Figure 6. Distribution of Social Determinants of Health Stressors



Note: N = 224 referrals to social service resources

Source: Montefiore Health System

assess community needs; the resulting information could then inform strategic decisions about how to prioritize resources.

Analyses of types of social health stressors resulting in referrals among prenatal patients and recent mothers (Figure 6) helped the team identify services that could be developed within the Montefiore network and those that could be more appropriately provided by external organizations. Montefiore has historically developed resources internally rather than outsourcing them; these included mother-infant bonding, pre-K preparedness, and childhood obesity prevention programs. The results of the PRO questionnaire highlighted the need to continue building this infrastructure to adequately serve its patients, potentially reducing uncertainty about patients accessing services and allowing staff to track follow-up activities more easily.

The health system's currently available services and resources include on-site food pantries, peer support groups for pregnant women and new mothers, a health insurance specialist, community garden, and nutrition walks; an on-site daycare center is being developed as well. Resource Team members also help patients who want to acquire a breast pump submit insurance claims; almost all prenatal patients can receive a breast pump free of charge. For diapers, clothing, or similar needs, patients are referred to local community resources.

While Montefiore focuses on "insourcing" many services, it relies on external organizations in the Bronx with the expertise to address social determinants of health on a larger scale— particularly systemic issues, such as housing, employment, and community violence. Montefiore will use the PRO stressor data to build relationships with such agencies and create a reliable referral network. It has adopted NowPow, a web-based resource that will eventually allow clinicians to search a directory of external community organizations, make social service referrals, and track the status of those referrals through a common communication portal among patients and health care and social service providers.

Looking Ahead

Montefiore plans to broaden the use of PROs to include other patient populations, expand the number and type of staff who administer the questionnaire and review it with patients, and conduct additional training on the workflow for providers.

Monitoring progress on patient-reported outcomes remains a challenge, especially in a resource-poor context that requires extensive coordination with a variety of community-based organizations providing social services. The Montefiore team is striving to create referral pathways and to adopt resources, such as NowPow, that providers can easily access. Even more importantly, it is working to establish ongoing, two-way communication with community-based organizations so that it can effectively assess patients' access to outside resources.

Montefiore's PROPC-NY Project at a Glance

Project sites	Two sites, a pediatric practice and an adult practice that includes prenatal care, together serving approximately 8,000 patients per year
Site attributes	Federally Qualified Health Centers (FQHC), established in 1993; Level 3 Patient-Centered Medical Home; Pioneer ACO and NYS DSRIP participants
Project location	South Bronx
PROPC-NY targeted population	Pregnant women, parents and children from birth through 15 months
Outcomes of focus	Social health stress
PRO measure instrument	SDH-Stressor Checklist, an internally developed and validated social health stressor questionnaire
Key team members involved in patient-reported outcome workflow	Resource Team Members: • Communication with patient, care plan development, and follow-up: 4 • Administration and evaluation: 3 • On-site case managers: 2 Physicians, Nurse Practitioners, Midwives: • Communication with patient about results, care plan development: 10

(continued)

HIT system	EPIC
Assets	• FQHC with long history of caring for families over several generations • Long-term support from the Children's Fund, allowing some financial stability to innovate in caring for the most vulnerable • Smart investment in workforce: use of AmeriCorps Program, Global Healthcorp • Creative engagement with volunteers, some of whom may ultimately be hired as staff • Respected team of champions leading the effort • Prior experience in piloting a patient-reported prenatal screening tool (PHQ-4) to measure self-reported anxiety/depression, stress management techniques, pregnancy anxiety, and social support • Experience in coordination/integration of social services for pregnant women and children • Vision, technical know-how, and quality improvement coaches working closely with site to adapt EMRs and workflows • Stable, multi-disciplinary staffing in primary care (adult, prenatal, and pediatric), behavioral health (social work, clinical psychology, psychiatry), case management, and nutrition • Integrated office space that includes dedicated team spaces for collaboration

Additional Montefiore team members who contributed to this project:

Chanchal Sharma, Director, Mental Health Services
Phoebe Christian, Administrative Director
Nancy Velez, Outreach Representative, Resource Team Member
Arielle Hoffman, Research Specialist, Resource Team Member
Mia Stange, Research Specialist, Resource Team Member
Monica Kavanaugh, Resource Team Coordinator, Resource Team Member
Melanie Aviles, Resource Team Member
Anika Joseph, Project Manager, Office of Community & Population Health
Jacob Schutt, EPIC Applications Analyst
Emily Hart, Senior Transformation Coach, Montefiore Medical Group

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