

## Ohio Creates Integrated Community-Clinical Screening and Referral System to Improve Hypertension Identification and Control

*Through the 2013-2015 ASTHO Million Hearts State Learning Collaborative, the Ohio Department of Health and state and local partners collaborated to develop an integrated community-clinical system to screen, identify, manage, and refer individuals with hypertension—particularly African American men—to clinical and community resources to support better self-management of blood pressure.*

Heart disease and stroke are the first- and fourth-leading causes of death in Ohio, respectively. Cardiovascular disease is responsible for 37 percent of all deaths in Ohio, and stroke is the leading cause of serious long-term disability in adults.<sup>1</sup> In Ohio, African American men have a stroke mortality rate that is 38 percent higher than any other population in the state. This disparity was consistent with Healthy People 2010 midpoint reviews, which showed that minority and low-income populations were falling behind on benchmarks related to chronic conditions, including cardiovascular disease. Hypertension is a primary risk factor for stroke, and research has shown blood pressure tends to be harder to control for African Americans. Although it is unclear why African Americans are at higher risk for hypertension, research suggests that both genetic and environmental factors play a role.

Through ASTHO's Million Hearts State Learning Collaborative, with support from CDC, the Ohio Department of Health (ODH) partnered with the Ohio Academy of Family Physicians (OAFP), Summit County Public Health (SCPH), KEPRO (the state quality improvement organization, or QIO),<sup>1</sup> and 11 family practices in Summit County to develop an integrated community-clinical system to screen, identify, manage, and refer individuals with hypertension—particularly African American males—to clinical and community resources to support better self-management of blood pressure.

### STEPS TAKEN

Key partners were involved in three different core components of the overall initiative:

***Developing community blood pressure referral resources and a screening referral system.*** Many Summit County residents, including the county's large refugee population, face significant barriers to managing their blood pressure. These barriers include lack of transportation and financial barriers to affording medication. SCPH operates a care coordination unit,<sup>11</sup> and created a comprehensive community-based screening and referral system in partnership with two Akron fire/EMS stations. SCPH conducted outreach to the fire/EMS stations and developed a [hypertension screening guide](#) and an [online survey tool](#) to collect data from blood pressure screenings. EMS staff conducted screenings at the

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<sup>1</sup> QIOs are private, mostly nonprofit organizations that work to improve the effectiveness, efficiency, economy, and quality of services delivered to Medicare beneficiaries by reviewing medical care, helping beneficiaries with complaints about the quality of care, and implementing quality improvements throughout the spectrum of care. Source: Centers for Medicare and Medicaid Services. "Quality Improvement Organizations." Available at: <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityImprovementOrgs/index.html?redirect=/qualityimprovementorgs>. Accessed 6-10-2013.

<sup>11</sup> Care coordination units—often supported by local health departments—offer services that connect county residents with community services, such as healthcare access, medication assistance, transportation, housing, counseling, dental care, food assistance, utility assistance, and vision and hearing needs.<sup>11</sup> Establishing systematic referral processes to these types of community resources supports patient blood pressure self-management and addresses critical barriers to care, such as lack of transportation or medication costs.

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fire halls. SCPH care coordination staff, who are public health nurses, used the survey information to follow up with individuals they identified as needing additional support and access to community resources. The general care coordinators' salaries are currently funded through the local health department's general funds. The health department also employs care coordinators for specialty areas, and they are funded through those specific programs.

In addition, SCPH staff provided an orientation to the care coordination unit for the 11 participating family practices, and established referral protocols that allowed physicians to refer patients with hypertension to the unit. SCHED staff also developed a [referral form](#) to the care coordination unit and a [hypertension drug formulary](#) that includes community-based medication access resources. Most providers did not know the local health department offered those kinds of services, and were very enthusiastic about the new resources. SCPH also offered direct assistance to the practices to help them learn how to use the referral form and system. Internally, SCPH used the referral tracking form to provide feedback to physicians on services offered to patients.

In 2015, SCPH expanded its partnership with local fire departments to include three additional jurisdictions (four jurisdictions total). Fire departments in Bath, Akron, Cuyahoga Falls, and Twinsburg now offer ["Check it. Change it." toolkits](#) to residents who come in for free blood pressure checks. If residents have a high blood pressure reading (>140/90 mmHg), fire department staff provide them with a free home blood pressure monitor and facilitate referral to the care coordination unit.

**Using electronic health record (EHR) data to create hypertension registries and monitor hypertension control rates.** KEPRO provided direct technical assistance to 11 family practices in Summit County to develop hypertension registries and track their overall hypertension control rates (measured using the National Quality Forum [NQF] 0018 measure Controlling High Blood Pressure). The registries used information in each practice's EHR system, and created patient lists to allow providers to identify individuals to target for clinical management. KEPRO encountered several challenges during this process, including lack of interoperability between the six different EHR systems used by the practices. As a result, KEPRO had to develop a different process for extracting data from each system to generate a registry. It also meant KEPRO could not create a single registry across all of the practices. When necessary, KEPRO leveraged its access to the nationwide QIO network to learn from QIOs in other states about how to work with different EHR systems to create the registries.

**Facilitating clinical quality improvement.** OAFP and ODH partnered to facilitate a five-month clinical quality improvement initiative with 11 family practices in Summit County. The initiative's goal was to convene multidisciplinary care teams from participating practices—including family physicians, nurses, medical assistants, pharmacists, and social workers—to identify opportunities to improve care for patients with hypertension, particularly African American males, by improving follow-up appointment rates. The initiative was based on a model OAFP developed for colorectal cancer screening quality improvement, and built upon the successful [Check It. Change It. Control It.](#) hypertension toolkit co-developed by ODH and OAFP. Each practice sent a team of clinical team members to an in-person training day to engage in action planning. Throughout the initiative, the practices developed and implemented clinical protocols to better identify, diagnose, manage, and follow up with hypertension among their patient populations. Each practice reported monthly on its progress, and OAFP staff provided technical support as requested. Each practice received continuing education credits, a practice stipend, and incentives for patients for participation.

## RESULTS

- Participating family practices identified approximately 12,000 patients with uncontrolled hypertension, defined as having a hypertension diagnosis and most recent blood pressure reading of >140/90 mmHg.
- Within the project's first three months, hypertension control rates among the eight family practices that reported data increased from 69.7 percent to 73.4 percent, and the percent of patients with hypertension who had a follow-up appointment scheduled increased from 66 percent to 68.8 percent.
- All 11 family practices adopted and implemented protocols for scheduling follow-up appointments with patients diagnosed with hypertension, affecting 6,993 patients.
- Twenty-eight patients were referred to the SCPH care coordination unit during the initiative's first year.
- Provider awareness of hypertension, both diagnosed and undiagnosed, as well as uncontrolled hypertension also increased. Post-program narratives submitted by participating practices unanimously said the quality improvement project improved care for patients with high blood pressure, instituted protocols that will be maintained after the project ends, and engaged other team members in caring for patients with high blood pressure.
- Practices increased meaningful use of EHR systems. For example, creating chronic disease patient registries and introducing clinical quality measures, such as NQF 0018 into chronic disease dashboards, has become a key component of both local and state interventions to improve chronic disease outcomes.
- The community-clinical linkages between SCPH and the physician practices not only helped patients gain access to additional nonmedical services they needed, but also helped the physician practices learn about the programs and links available through public health through clinical care coordination services.
- OAFP developed a [public website](#) with hypertension resources and two [mobile apps](#) for patients to record blood pressure readings and engage in other self-management behaviors.

## NEXT STEPS

- Through CDC's 1422-funded activities, SCPH will continue to expand its care coordination unit services and outreach, and expects referrals to increase as providers continue integrating protocols into their practices. SCPH will also provide online learning modules for physician practices to improve hypertension management, as well as continue expanding the bidirectional referral network including community clinical linkages.
- The Health Services Advisory Group, the current QIO in Ohio, will assume the role that KEPRO initially served in supporting practices in data collection and surveillance of their patient populations through health IT technical assistance.
- At the state level, ODH and OAFP collaborated to offer a Million Hearts Hypertension Collaborative in March 2015. At the conclusion of the collaborative's four-month study period, participating practices reported impacting nearly 34,000 patients with hypertension, including approximately 6,000 African-American patients. Across 19 practices reporting data, hypertension control rates improved from 62.2 percent at baseline to 65.3 percent in month 3,

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although hypertension control rates among African Americans fell from 60 percent to 58.2 percent during the same period. In addition, 15 practices improved the percentage of their patients with hypertension who had a self-management care plan in place. This hypertension collaborative model will continue to be refined and supported through 2018 as part of Ohio's 1305 and 1422 chronic disease grants.

- ODH and OAFP will expand hypertension quality improvement training for FQHCs and patient-centered medical homes across the state. A new partnership with the Ohio Health Information Partnership/CliniSync, the state's health information exchange, will expand technical assistance to practices to improve utilization of EHRs for population health management of hypertension. In addition, ODH has included the development of local hypertension learning collaboratives and establishment of bi-directional referral networks between providers and community resources as key strategies in its funding proposals for communities. With CDC's 1422 funding, ODH granted 4-year sub-awards to six local health districts across the state to provide increased sustainability for chronic disease prevention and community-clinical linkage interventions.
- Six counties, including Summit County, are being funded to recruit at least 10 physician practice teams to attend a March 2016 training and provide resources and referral support to their practice teams and patients with hypertension post-training. OAFP and ODH will identify 10 additional practice teams from across Ohio to participate in the March training, ultimately reaching 20 practice teams statewide. Million Hearts team trainings will be held each year through 2018 to expand the network of providers engaged in team-based care for patients with hypertension.

## LESSONS LEARNED and RECOMMENDATIONS

- **Strong partnerships must be a foundation.** A strong partnership between ODH and OAFP was critical to the overall project's success. OAFP provided important statewide access to a network of healthcare providers. SCPH was very engaged from the beginning and had active staff champions and capacity to establish and support a community- and clinic-based referral system. In addition, KEPRO's experience with different EHR systems and capacity to provide training and technical assistance to each family practice to develop patient registries was critical to developing all partners' data capacity.
- **Be prepared for challenges working with EHR data.** ODH staff caution that EHR systems aren't necessarily easy and quick to work with, at least at first. Establishing efficient electronic data transmission systems is an ongoing challenge that may take a long time. In particular, obtaining patient-level data from individual practices can be difficult. Even aggregate data is a challenge.
- **Be flexible.** It's important to stay flexible, particularly when adapting a model to varying practice settings and EHR systems. One size does not fit all practice sites, and identifying partners and resources to address these adaptations is key to growing the program over time.

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<sup>1</sup> Ohio Department of Health. "Heart Disease and Stroke Prevention Program Overview." Available at: <http://www.healthy.ohio.gov/hdsp/hdsp.aspx>. Accessed 9-12-2014.