

Aligning Systems with Communities to Advance Equity through Shared Measurement: Cincinnati All Children Thrive Learning Network

Lead Organization:	Cincinnati Children’s Hospital Medical Center
Lead system:	Health care
Partner systems:	Public health, education, community-based organizations
Location:	Cincinnati, Ohio
Population:	Urban—50% White, 43% African American
Year founded:	2015
Measurement:	Infant mortality rate, “Thrive at Five” measure, disparities in inpatient bed days, and third-grade reading

How did the initiative start?

Cincinnati is home to about 66,000 children, more than 40% of whom live in poverty. Research led by the Cincinnati Children’s Hospital Medical Center (CCHMC) showed that children living in the highest poverty neighborhoods consistently experience suboptimal health outcomes than those living in more affluent neighborhoods. In 2015, CCHMC launched the Cincinnati All Children Thrive (ACT) Learning Network in collaboration with several organizations to substantially improve the health of children in the community. The vision was to make Cincinnati’s children the healthiest in the nation through strong community partnerships.

How does the initiative use shared measurement?

The first step in this initiative was to establish the ACT Learning Network. Once the learning network was developed, partners collaborated to identify areas of focus. All selected measures within this network focused on improving outcomes in the 0-to-9 age group, except for the measure of disparities in hospital bed days, which included children up to age 18.

Collaborating systems within the learning network established a shared purpose, collaborative infrastructure, sustainable financing, and accountable governance. Members of the steering committee selected a small set of practical, measurable, and actionable measures. According to Dr. Uma Kotagal, Senior Executive Leader of Population and Community Health at CCHMC, *“The goal to select practical, actionable, and meaningful measures was intentional in order to ensure buy-in, engagement, and early impact.”*

Cincinnati ACT selected infant mortality rate, third-grade reading level, a Thrive at Five measure, and inpatient bed days (the number of days spent in the hospital) as the four primary measures. Thrive at Five is a composite measure that ensures all 5-year-old children are physically, mentally, and emotionally ready to begin kindergarten at age 5. *“We were not looking for a perfect set of measures, but a set of measures that allow[s] us to decide what outcomes we could move in the early childhood that would make a difference in the long term,”* said Dr. Kotagal.

From the beginning, the goal of Cincinnati ACT’s measurement strategy was to be responsive. The initiative used the measures available, but they had to be practical and responsive. Dr. Kotagal said, *“It couldn’t be that we would work hard for one year, and then see what happened.”* Besides identifying the four primary measures, Cincinnati ACT also looked at intermediate measures, process measures, and measures of engagement to better understand what was and was not working to engage the community.

Cincinnati ACT focused on deep work in two neighborhoods and also tackled systems change in health care and education. To improve neighborhood level outcomes, CCHMC partnered with local organizations as well as parents and grandparents to establish collaborations. Localizing the work to individual neighborhoods helped partners better understand key issues in individual communities and test ideas to improve the existing systems. At the same time, the third-grade reading measure was introduced across the Cincinnati Public Schools to improve third-grade literacy across the city.

Cincinnati ACT uses shared measurement to meet children’s health and social needs. The selected measures were “whole measures” that engaged partners across various systems. For example, the Thrive at 5 measure enabled medical–legal partnerships to address the social and medical needs of children. With input from Legal Aid advocates, clinicians and social workers, Cincinnati ACT built a shared measurement system that asks about the social needs of children and refers those in need to Legal Aid. According to Dr. Robert Kahn, Associate Chair of Community Health at CCHMC *“Doctors don’t solve equity. We need a great partner who is all about housing, food, jobs, public benefits, school. To me this is probably our best example of true integrated co-management with an external partner to remove the barriers to get kids thriving.”* Early on, this partnership used process measures to assess connections between the clinical and legal teams. These process measures helped evaluate what the handoffs between the medical and legal teams should look like and the degree to which referrals placed in the primary care setting were received and acted upon by the advocates in the legal setting. The measure currently tracks the number of referrals to Legal Aid for every one thousand well child visits. Once referred, Legal Aid take care of the child’s social needs such as housing and food security and share updates with the project leadership and the referring provider.

How do systems work together?

Cincinnati ACT uses the National Academy of Medicine’s Learning Health System approach to build and support a sustainable collaborative improvement network that measurably improves health outcomes. The vision of the learning health system approach is to create a network where patients, families, clinicians, and scientists work together and use data for clinical care, improvement, and research to achieve population health outcomes at scale. Cincinnati’s ACT learning network works at different levels. First, there is a cross-systems steering committee of physicians, operational leaders, nurses, and quality improvement support personnel. The cross-systems leaders are accountable for

managing the overall work of the network. Second, within the network, once system leaders agree on each measure, they identify partners to build an improvement team. Leaders for each improvement team include community members, partners who have a direct impact on achieving outcomes, and those who are indirectly involved in or affected by the outcomes. Third, for each measure, Cincinnati ACT identifies the early adopters, finding the first three to five organizations ready to pilot the measure. For example, for the infant mortality rate measure, obstetricians, pediatricians, midwives, community health workers, anchor organizations, and community members work together to reduce the infant mortality rate in selected neighborhoods.

Cincinnati ACT uses the learning network to bring multiple systems together to achieve its goal of making Cincinnati's children the healthiest in the nation. According to Dr. Kotagal, *"The sectors that we reached out to don't always come from 'Let's reach out to this sector and see what we can do.' Rather, they come from our measurement idea, meaning if we want to work on hospital bed days, then what sectors need to be involved for us to do that?"* For example, for the Thrive at Five measure, CCHMC leaders heard from community leaders about the need to screen for and then support children with speech, language, hearing, and vision issues before they arrive in Kindergarten. In response, Cincinnati ACT created the new "Thrive at Five" measure to hold the initiative accountable not just for screening and the number of well child visits but also for improving health outcomes.

The Cincinnati ACT Learning Network increases capability in communities to advance systems change. Dr. Kotagal explained, *"We have an improvement course called IMPACT U that enables us to build capacity and capability across the community and systems. We are very serious about using improvement methods to enable people to collaborate across systems, use data in similar ways, and also learn how to test and improve."* Cincinnati ACT also designed an improvement training course tailored for community residents to give them the tools to solve problems, build capacity, and create community leaders who can work with the systems directly.

How does the initiative address equity?

Equity is foundational for Cincinnati ACT and is part of its guiding principles. According to Dr. Kahn, *"Early on we realized, just how inequity plays out for these kids. So, 90% to 95% of the kids are on Medicaid. Many of them are coming from very poor neighborhoods..... Starting 15-20 years ago, we began a screening set of questions around key social determinants, like housing, hunger, maternal depression, and so on, and building it into the electronic health record."* Cincinnati ACT's four measures are designed to address inequities. For example, the inpatient bed days measure focuses on reducing hospital bed days for children from the Avondale and Price Hill neighborhoods to narrow the gap between their neighborhoods and healthier ones. Also, to address racial equity in maternal and infant health, the infant mortality rate measure is breaking down the infant mortality rate measure by race and ethnicity to show disparities in outcomes.



Spotlight on Using Shared Measurement: Third-Grade Reading Level

Evidence suggests that reading by third grade is an early marker of long-term health and better outcomes. CCHMC partnered with the Cincinnati Public Schools (CPS) to improve the third-grade reading level by 10% every year. Results show that, over 3 years, the percent of third-grade students reading proficiently increased from about 40% to more than 70%. Results also indicate that equity gaps are closing in schools where principals are using quality improvement methods to improve student outcomes.

CCHMC and CPS implemented the plan-do-study-act (PDSA) quality improvement approach to improve the third-grade reading level. Their previous measurement approach introduced several interventions and tracked student progress annually or biannually. The PDSA approach introduced a limited number of interventions and monitored progress on a weekly or biweekly basis. With the goal of using measurement for improvement, the CPS leadership team, reading and math specialists, and principals at individual schools received quality improvement training. In the beginning, reading specialists met with students weekly or biweekly to support their learning. To share best practices and lessons learned, reading specialists met in small groups and participated in a learning collaborative, with other professionals. Ms. Emily Campbell, Director of Curriculum and Instruction at CPS says, *“This created a shared understanding, shared theory, and shared goals, which again, allowed for the breadth and scaling of the PDSAs that were working. And PDSAs that we needed to either abandon or seriously adapt.”* Through this process, the Cincinnati ACT identified strategies to improve children’s reading level by the end of third grade.

The third-grade reading measure uses measurement at the individual and systems level to track progress. Teachers and reading specialists use small, intermediate measures such as writing tests, reading charts, and number of words learned weekly or monthly so they can share information on children’s progress often. These interim measures indicate progress toward long-term outcome measures and help all partners adapt their approaches as necessary to best support students’ learning. Simultaneously, at the systems level, the third-grade reading level measure demonstrates the literacy rate across Cincinnati schools.

Dr. Kotagal stated, *“I think data are central to the work. We try to find ways of using measurement in a meaningful way. Teachers use a lot of different methods in the classroom to reflect on how their classroom is doing. So the data we like to include are not only final outcome data, but we also collect intermediate data every 2 weeks to monitor progress in each domain of the effort.”*

CPS is now spreading this combined measurement and QI process to improve the performance of all students enrolled in K-12. *“The adoption of this data-driven approach to measure, improve, try things out, see what works, sustain it, is now part of the culture, so that this has now expanded into math, social emotional learning, absenteeism, and other curriculum”* says Dr. Kotagal.

How does the initiative engage community members?

Community members participated in the early codesign of each of the four Cincinnati ACT measures. They helped identify important issues in specific neighborhoods but were not involved in the technical aspects of measurement.

Community members also co-lead the improvement teams that participate in implementation, monitoring, and measure tracking. Twice a year, the initiative convenes learning sessions where partners and community members meet to share best practices and lessons learned. For instance, according to Ms. Campbell, Director of Curriculum and Instruction at Cincinnati Public Schools, *“to monitor progress for the third-grade reading measure, one of the most powerful structures is that twice a year our educators get in the same room with the parents and community members during the All Children Thrive learning sessions. It’s parents sharing PDSAs that they’re doing, reading specialists sharing PDSAs that they’re doing, and having a chance to talk together and learn together, and celebrate one another.”*

Lessons Learned

- Cincinnati ACT found three steps essential for success: agreement on the outcome of interest, agreement on the population of interest, and selecting a small set of measures.
- Instead of developing or selecting the perfect measure, Cincinnati ACT focused on selecting practical and usable measures to track progress toward outcomes. Dr. Kotagal offered this recommendation, “I would settle for a measurement that’s good enough for improvement if it allows people to move from where they are now to where they could see the system differently.”
- Cincinnati ACT found that relationships are crucial to working with the community and across systems. According to Dr. Kotagal, “Respect and collaboration and the understanding of their work and why they should collaborate is an important consideration for cross-sector work. Recognizing that every sector in this broad population health space cares deeply, and that the people in that sector are really deeply committed to the work.”
- Cincinnati ACT found that it was important to celebrate the small successes and reward those involved. Dr. Kahn says, “We make sure that those who are making this happen see the data, see the improvement, are called out, and get a chance to share what they learned.”
- Cincinnati ACT found that the speed of learning is important, and that the shared measurement system should allow real-time learning.

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