

Aligning to Improve Pediatric Health Care Quality



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WHAT'S NEW

We present a population health framework for collaboration and coordination across the delivery system to improve care quality, with quality measures as key tools for monitoring and incentivizing collaboration and alignment of efforts across levels, based on each entity's sphere of influence within the Applegate Alignment Framework.

The *Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium* (Q-METRIC) worked with Michigan health systems and Medicaid plans to implement sickle cell anemia (SCA) quality measures to prevent life-threatening complications. One in 365 Black individuals is born with SCA, and approximately 90% of these children in Michigan are enrolled in Medicaid.⁸ Two measures encourage use of prophylactic antibiotics for children under 5 years to prevent sepsis and annual transcranial doppler screening among 2 to 15-year-olds to prevent stroke.

MEASURES THAT FOCUS attention on populations who experience disparities in health outcomes— including high-risk pediatric groups - are critically important to ensure quality and equity in evidence-based care. As part of the AHRQ-CMS Pediatric Quality Measures Program, 2 grantees developed validated quality measures for state Medicaid/Children's Health Insurance Program agencies, health plans and providers to support better care for 2 highly vulnerable but small populations. Our efforts highlight the need for aligned incentives at multiple levels to drive quality improvement.

The *National Collaborative for Innovation in Quality Measurement* (NCINQ) worked with 5 New York Medicaid plans and their provider networks to implement quality measures to encourage the safe and judicious use of antipsychotic medications. Antipsychotic medications are used for a range of psychiatric conditions and are disproportionately prescribed among minority children enrolled in Medicaid and in foster care.^{1–6} Three measures targeting unnecessary antipsychotic prescribing, encouraging psychosocial care as first-line treatment, and increasing metabolic monitoring of adverse effects are included in HEDIS* national reporting; 2 are in the Medicaid Core Set.⁷

CHALLENGES TO IMPLEMENTATION

Both NCINQ and Q-METRIC QI collaboratives met with limited success in improving care quality during the study period. New York Medicaid Plans performed, on average, better against national benchmarks on the use of first-line psychosocial care and metabolic monitoring. However, the 5 plans that participated in the NCINQ collaborative did not do better than those that did not, though there were individual exceptions that reflected targeted plan activities, such as the use of standing lab orders and pharmacy soft edits to increase metabolic testing. The Q-METRIC collaborative needed to start with a registry or data platform to assist in the implementation of the two quality measures. However, health systems were underfunded and lacked the capacity to implement the measures to improve care.

In reflecting on the challenges across NCINQ and Q-METRIC collaboratives, we used the Applegate Alignment Framework (Figure), adapted from Langley et al,⁹ to highlight opportunities for supporting implementation of quality measurement among these small, but highly vulnerable populations. The framework highlights the importance of coordination, shared goals and aligned incentives across 3 levels: the macrosystem (federal/state entities with regulatory authority), the mesosystem (health plans/

*HEDIS (Health Care Effectiveness Data and Information Set) is a registered trademark of the National Committee for Quality Assurance (NCQA).

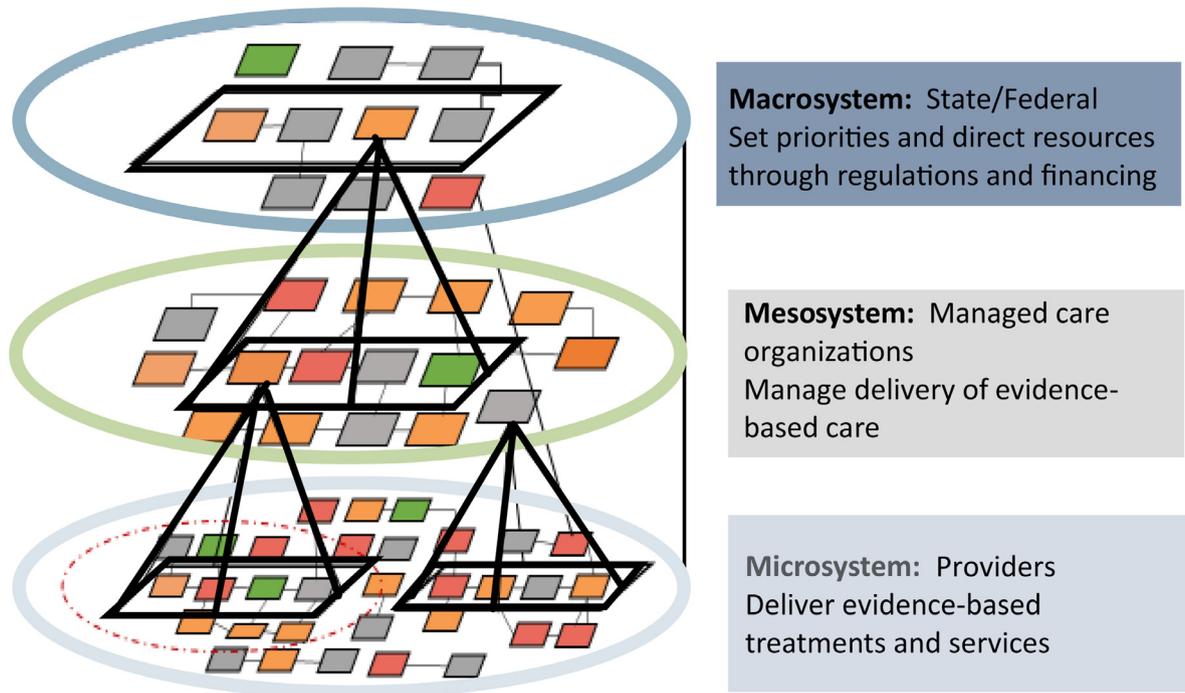


Figure. Aplegate alignment framework. Figure adapted from Langley et al.⁹

systems, responsible for microsystem activities), and the microsystem (providers).

Macrosystem: In New York, health plans could receive financial incentives for reporting and improvement on the antipsychotic measures via the state's Quality Assurance Reporting Requirements.¹⁰ New York also dedicated resources for data infrastructure to capture and report measures and to support quality improvement.¹¹ Unlike NCINQ, Q-METRIC's efforts were not supported by any national or state imperative, accountability, or alignment across agencies to address SCA. This contributed to limited improvements as plans preferentially focused on measures in the core set or those that were included in state incentive programs. The lack of resource allocation for data systems or QI activities and the prioritization of other conditions affected Q-METRIC's ability to gain traction with health plans or health systems, highlighting the importance of vertical alignment in population health improvement initiatives.

Mesosystem: Health plans were better resourced than health systems and had access to administrative data to allow better tracking and management across care settings. Data for QI entailed the use of more proximal process metrics such as pharmacy data to generate timely care-gap reports. In NCINQ, plans relied on in-house analytics or vendors to generate these reports and deployed care managers for targeted outreach to providers and families. QI teams emphasized the importance of external incentives, leadership commitment and champions to ensure focused resources for these small populations. In Q-METRIC, health plans were not required to report on SCA measures, but the Q-METRIC team provided plan-specific performance scores based on an analysis of state Medicaid data. Still, because reporting was not required,

plans did not commit sufficient resources for QI activities for SCA. Rather these resources were directed toward larger populations tied to financially-incentivized measures present in contracts.

Microsystem: Turnover of personnel and lack of familiarity with structured QI processes limited the tempo and success of both NCINQ and Q-METRIC. Without external requirements or financial incentives, leadership commitment to QI efforts waned despite available data about care gaps. For example, in NCINQ, New York State's Office of Mental Health provided web-based tools to encourage clinic attention to children with psychiatric conditions; however, there were no organized efforts to coordinate patient care horizontally across responsible providers (eg, pediatrician, psychiatrist, or social worker). Clinician level participation in QI activities is a key component to successful endeavors in other states.^{12,13} Thus, health plan's focus on care gap reports and educational outreach materials, are unlikely to have broad impact in the absence of clinician champions at the microsystem level.

IMPLICATIONS FOR FUTURE PEDIATRIC QUALITY EFFORTS

Both NCINQ and Q-METRIC highlight the importance of extrinsic factors to drive engagement and of addressing common pitfalls a priori (eg, aligned priorities, common data platform, champions, clear QI methods, financial incentives). These factors have been critical to other successful pediatric QI initiatives.¹⁴ Aligned and well-specified measures are insufficient to drive large scale improvements. In the [Table](#), we compare and contrast the experiences of NCINQ and Q-METRIC, and highlight potential system levers that could support more successful

Table. Lessons Learned from NCINQ and Q-METRIC in Implementing Quality Metrics: Potential System Levers

Lessons	NCINQ	Q-METRIC	Potential System Levers
<i>Macrosystem level (federal/state entities with regulatory authority and responsibility)</i>			
Alignment of goals across national and state priorities can direct resources to priority populations	The Child and Family Services Improvement and Innovation Act of 2011 (P.L. 112-34) focused state attention on monitoring antipsychotic prescribing among children in Medicaid and foster care. Two of the 3 HEDIS measures were in the State Medicaid Core Set.	No federal or state mandate or incentives in place for implementation of SCA measures, to date.	Collaboration at federal level to address priority areas for expeditious measure development and testing to address current gaps
Incentives or mandates encourage collaboration among key stakeholders	New York's Medicaid Managed Care Quality Incentive Program includes all 3 NCINQ HEDIS measures; health plans could receive financial incentives for reporting and improvement via the state's Quality Assurance Reporting Requirements. ¹⁰	Nationally endorsed SCA measures did not create impetus for focus on this vulnerable population at the state or health plan levels.	State Medicaid program requirements, CMS regional collaboratives for smaller, disparate population measures could be helpful.
State data infrastructure and resources encourage use of data for reporting and QI	NYS Office of Mental Health provided web-based tools made available for mental health clinics to use claims data for QI and care coordination. ¹¹	No existing data infrastructure available for identifying SCA children or reporting on quality metrics.	Federal impetus (eg, Office of the National Coordinator for Health IT and others) to support electronic clinical quality measures and accelerated interoperability.
<i>Mesosystem level (health plans/systems, responsible for microsystem activities responsible for microsystem activities)</i>			
Health plan leadership support and resources essential	Health plan leadership support and resources allocated to focus QI on this small population varied, despite macro-system mandates.	Health plans were able to use a valid claims-based definition of SCA developed by the Q-METRIC team to identify the pediatric members with SCA. However, plans did not commit sufficient resources for QI activities for SCA.	For high-risk, small populations, states could restructure managed care plan contracts to create financial incentive for collective impact around key measures with all gaining/losing based on the plan aggregate performance.
<i>Microsystem level (Provider entities close to care recipients)</i>			
Clinician participation in QI critical.	No organized efforts to coordinate patient care horizontally across responsible providers (eg, pediatrician, psychiatrist, or social worker). Providers were often unaware of services the child received in other care settings. Clinics were not active participants in the QI collaborative; they were not engaged in using web-based tools for QI or care-coordination.	SCA registry was established but staff turnover at clinics and lack of familiarity with QI processes limited engagement in SCA QI activities.	States to help develop registries and QI technical assistance to support health systems management and prioritization of low prevalence conditions with care disparities. Develop attribution algorithms that align across payors. Value-based contracting support for engaging clinicians in care for special populations, targeting groups of health plans/ ACOs/ Centers of excellence.

implementation and outcomes. In moving from a fee-for-service model to a value-based approach, organizational cultures would need to shift to an improvement mindset rather than a compliance-driven one. This suggests that the use of common incentives (like community achievement of access goals) to encourage collaboration and make it harder for any one entity to succeed alone. Quality measures are a key tool to monitor, promote collaboration and incent

mutually beneficial activities based on each entities' unique position within the Applegate Alignment Framework.

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REFERENCES

- Crystal S, Mackie T, Fenton MC, et al. Rapid growth of antipsychotic prescriptions for children who are publicly insured has ceased, but concerns remain. *Health Affairs*. 2016;35:974–982. <https://doi.org/10.1377/hlthaff.2016.0064>.
- Crystal S, Olfson M, Huang C, et al. Broadened use of atypical antipsychotics: safety, effectiveness, and policy challenges. *Health Affairs*. 2009;28:w770–w781.
- Adams SJ, Xu S, Dong F. *Differences in Prescribing Patterns of Psychotropic Medication for Children and Adolescents Between Rural and Urban Prescribers*. Boulder, CO: WICHE Center for Rural Mental Health Research; 2009. Available at: <https://www.ruralhealthresearch.org/mirror/4/415/AdamsWorkingPaperYr4Proj2.pdf>. Accessed 23 September 2020.
- Medicaid Medical Directors Learning Network and Rutgers Center for Education and Research on Mental Health Therapeutics. *Antipsychotic medication use in Medicaid children and adolescents: report and resource guide from a 16-state study*. MMDLN/Rutgers CERTs Publication #1; July 2010. Distributed by Rutgers CERTs at Available at: <http://nrc4tribes.org/files/Antipsychotic%20Use%20in%20Medicaid%20Children%20Report%20and%20Resource%20Guide.pdf>. Accessed September 23, 2020.
- Penfold RB, Stewart C, Hunkeler EM, et al. Use of antipsychotic medications in pediatric populations: what do the data say? [published correction appears in *Curr Psychiatry Rep*. 2014 Feb;16(2):432. Coleman, Karen A [corrected to Coleman, Karen JJ]. *Curr Psychiatry Rep*. 2013;15:426. <https://doi.org/10.1007/s11920-013-0426-8>.
- Zito JM, Safer DJ, Sai D, et al. Psychotropic medication patterns among youth in foster care. *Pediatrics*. 2008;121:e157–e163. <https://doi.org/10.1542/peds.2007-0212>.
- Centers for Medicare & Medicaid Services. 2020 Core Set of Children's Health Care Quality Measures for Medicaid and CHIP. 2020. Available at: <https://www.medicaid.gov/medicaid/quality-of-care/downloads/performance-measurement/2020-child-core-set.pdf>. Accessed November 20, 2020.
- Freed GL. A missed opportunity to address a national shame: the case of sickle cell disease in the United States. *JAMA Pediatr*. 2019;173:715–716. <https://doi.org/10.1001/jamapediatrics.2019.1536>.
- Langley GJ. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 2nd ed. Jossey-Bass; 2009:245.
- New York State Department of Health. 2019 quality assurance reporting requirements: technical specifications manual. 2019. Available at: https://www.health.ny.gov/health_care/managed_care/qarrfull/qarr_2019/docs/qarr_specifications_manual.pdf. Accessed June 3, 2021.
- New York State Department of Health. About PSYCKES. 2021. Available at: https://omh.ny.gov/omhweb/psyckes_medicaid/about/. Accessed June 3, 2021.
- Thackeray J, Crane D, Fontanella C, et al. A Medicaid quality improvement collaborative on psychotropic medication prescribing for children. *PS*. 2018;69:501–504. <https://doi.org/10.1176/appi.ps.201700547>.
- Barclay RP, Penfold RB, Sullivan D, et al. Decrease in statewide antipsychotic prescribing after implementation of child and adolescent psychiatry consultation services. *Health Serv Res*. 2017;52:561–578. <https://doi.org/10.1111/1475-6773.12539>.
- Schwartz SP, Rehder KJ. Quality improvement in pediatrics: past, present, and future. *Pediatr Res*. 2017;81:156–161. <https://doi.org/10.1038/pr.2016.192>.