



**Children's  
Clinics**

*Comprehensive Care for Kids & Teens*

# **THE ARIZONA MULTISPECIALTY INTERDISCIPLINARY CLINIC (MSIC) MODEL**

A Value-Driven Approach to Care for  
Children with Medical Complexity

*Fall 2025*

## EXECUTIVE SUMMARY

In the United States, Children and Youth with Special Health Care Needs (CYSHCN) account for nearly 20% of the pediatric population<sup>1</sup>. Within this group, Children with Medical Complexity (CMC) represent a small but high-needs subset who rely on a disproportionate share of healthcare resources. The Arizona Multi-Specialty Interdisciplinary Clinic (MSIC) model was designed to address these challenges by delivering comprehensive, centralized, and coordinated care to children enrolled in the Arizona Health Care Cost Containment System (AHCCCS), the state's Medicaid program.

An analysis of AHCCCS claims data from October 2018 through January 2025 indicates that the MSIC model is associated with better outcomes for children with higher medical complexity. Compared with non-MSIC peers, children enrolled in MSICs had substantially greater illness burden yet experienced stronger results across key measures.

- **Lower mortality and longer survival:** MSIC enrollment was associated with a 50% lower observed mortality rate during the study period. Among decedents, the mean age at death was 18.2 years in the MSIC cohort compared with 10.5 years in the non-MSIC cohort.
- **Reduced hospital readmissions:** MSIC patients experienced lower average 30-day readmission rates, reflecting more stable chronic disease management and fewer acute crises.
- **Comparable or lower costs:** Despite greater clinical complexity, MSIC enrollees incurred similar or slightly lower per member per month (PMPM) expenditures than matched non-MSIC peers, with the most pronounced savings observed in long-term care services.

Taken together, these findings suggest that the Arizona MSIC model offers a high-value, cost-effective, and family-centered approach to complex pediatric care. As AHCCCS prepares for its next 1115 demonstration waiver amendment and upcoming contract redesigns, state leaders have an opportunity to preserve and expand this evidence-based model. Doing so will help Arizona meet its Medicaid goals for improved outcomes, cost efficiency, and equitable access for children with the most complex health needs.

## INTRODUCTION

Children and Youth with Special Health Care Needs (CYSHCN) represent a substantial and growing population within the U.S. healthcare system. According to the 2016-2019 National Survey of Children's Health (NSCH), 19.7% of children nationally meet the criteria for CYSHCN, a prevalence mirrored in Arizona at 20.4%<sup>2</sup>. This population is defined by chronic physical, developmental, behavioral, or emotional conditions expected to last at least 12 months and that require services beyond those generally needed by children of the same age<sup>3</sup>.

Within this group, Children with Medical Complexity (CMC) comprise a small but disproportionately resource-intensive subset. CMC account for approximately 6% of Medicaid-insured children yet drive up to 40% of pediatric Medicaid expenditures<sup>4</sup>. These children often present with multiple chronic conditions, significant functional limitations, and technology dependence<sup>5</sup>. Their care needs span multiple subspecialties and systems, requiring longitudinal coordination. Historically, this population has faced fragmented and reactive care, resulting in preventable utilization of emergency departments, avoidable hospitalizations, and costly long-term care placements.

**Children with Medical Complexity (CMC) account for approximately 6% of Medicaid-insured children yet drive up to 40% of pediatric Medicaid expenditures.**

The Arizona Multispecialty Interdisciplinary Clinic (MSIC) model was developed to address these systemic gaps in care delivery. By consolidating medical, behavioral, and developmental services into a centralized, team-based model, MSICs reduce fragmentation, improve care-coordination, and enhance family experience. Programs in cities such as Boston and Cincinnati have demonstrated improved outcomes for children with complex needs. The Arizona experience builds on these national models with state-specific evaluation: a University of Arizona analysis of AHCCCS claims provides new evidence on the effectiveness and value of MSICs in meeting the needs of Arizona's most medically complex children.

As Arizona prepares future amendments to its Section 1115 demonstration waiver and managed care contract redesigns, the MSIC model represents a scalable, evidence-based strategy that aligns with Medicaid's goals of cost-effectiveness, quality improvement, and health equity for high-needs pediatric populations.

## THE ARIZONA MSIC MODEL OF CARE

The Arizona Multi-Specialty Interdisciplinary Clinic (MSIC) model delivers a comprehensive, centralized, and family-centered system of care for children with chronic and medically complex conditions. By integrating multiple disciplines into a single clinical setting, the model reduces

fragmentation, enhances collaboration among providers, and alleviates the strain on families navigating multiple care systems. Core elements of the MSIC model include:

- **Interdisciplinary Team-Based Care:** The MSIC brings together pediatric subspecialists, primary care physicians, behavioral health providers, social workers, therapists, and dedicated care coordinators. This structure ensures that a child’s physical, developmental, and psychosocial needs are addressed holistically rather than in isolation. Regular case discussions and shared treatment planning strengthen communication among providers and lead to more cohesive care strategies.
- **Centralized Care:** By co-locating services in a single setting, the MSIC minimizes the logistical challenges families face when managing multiple appointments across different systems. Families gain access to medical, behavioral, and supportive services in one location, which reduces travel demands, lowers scheduling conflicts, and creates a more consistent and familiar care environment for children.
- **Proactive, Preventive Management:** The model prioritizes preventive and ongoing management of chronic conditions. Rather than responding only to acute crises, providers within the MSIC focus on early interventions, routine monitoring, and education for families to help prevent hospitalizations and emergency department visits. This approach improves long-term health outcomes, reduces costly episodes of care, and supports greater quality of life for children and families.
- **Care Coordination:** Each family is paired with a care coordinator who acts as the primary liaison across providers and systems. The coordinator assists with scheduling, medication management, and follow-up, while also facilitating communication between medical teams, schools, and community resources. This dedicated role reduces confusion for families, ensures continuity across care settings, and enhances trust in the healthcare system.

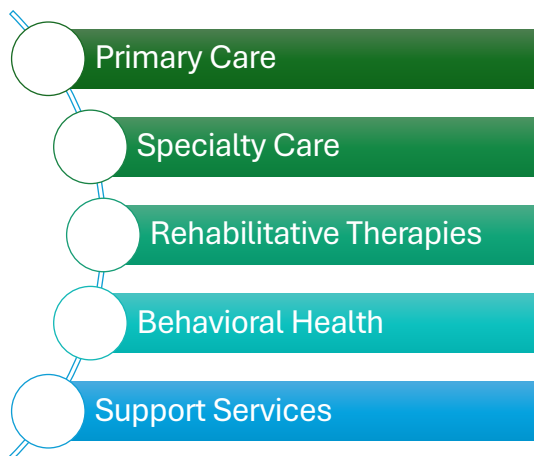


Table 1 highlights how the MSIC model aligns with Medicaid policy priorities.

Through these core components, the Arizona MSIC model is positioned as a population health strategy tailored for children with medical complexity. By integrating interdisciplinary care, addressing medical and social needs, and emphasizing proactive management, the Arizona MSIC model advances Medicaid goals of cost-effectiveness, equity, and improved outcomes for high-need pediatric populations.

**Table 1. Arizona MSIC Model of Care: Policy Alignment and Impact**

<b>Feature</b>	<b>Policy Relevance</b>	<b>Expected Impact</b>
<b>Interdisciplinary Team-Based Care</b> (subspecialists, primary care, behavioral health, social work, therapy, care coordination)	Aligns with Medicaid’s emphasis on integrated, whole-person care and reduces silos across service lines.	Holistic management of medical, developmental, and psychosocial needs; reduction in duplicative services; improved quality of care.
<b>Centralized Access Point</b> (co-location of services)	Supports care integration goals in Section 1115 demonstrations; decreases administrative and logistical barriers to access.	Simplified navigation for families; reduced travel burden; improved continuity of care.
<b>Proactive, Preventive Management</b> (routine monitoring, anticipatory guidance, caregiver education)	Consistent with value-based purchasing and quality improvement initiatives targeting preventable utilization.	Fewer emergency department visits and avoidable hospitalizations; stabilization of chronic conditions; improved long-term outcomes.
<b>Dedicated Care Coordination Infrastructure</b> (assigned coordinator per family)	Reinforces CMS and AHCCCS focus on care management for high-need populations; supports health equity by addressing gaps in continuity.	Stronger cross-system coordination (medical, school, community services); smoother care transitions; improved family satisfaction and trust in Medicaid.

## METHODOLOGY

The findings in this paper are drawn from an analysis conducted by the University of Arizona using AHCCCS claims data from October 2018 through January 2025. The study population included children and youth up to age 21 with a Children’s Rehabilitative Services (CRS) qualifying medical condition, and who were continuously enrolled for at least two years in AHCCCS during this period. Children with at least one outpatient visit at a Multispecialty Interdisciplinary Clinic (MSIC) through utilization records formed the intervention cohort, while the comparison group consisted of children with medical complexity who did not have any outpatient visits at an MSIC but shared similar demographic and diagnostic characteristics. Medical complexity was identified using diagnostic coding (ICD-10) and participation in programs such as the Arizona Long-Term Care System (ALTCS) and the Division of Developmental Disabilities (DDD), which served as consistent indicators of high-needs status.

The analysis focused on three key outcome domains: mortality and survival, hospital readmissions, and costs of care. Mortality was measured by all-cause death rates and mean age at death during the study period. Hospital readmissions were tracked as 30-day returns following discharge, a common Medicaid quality indicator. Costs were calculated as per member per visit expenditures, capturing total spending on medical, acute, and long-term care services.

Comparative methods were applied to assess differences between MSIC and non-MSIC cohorts. Although the study was observational and not randomized, the comparison groups were designed

to ensure reasonable similarity in baseline characteristics, allowing for meaningful contrasts in outcomes. Results were reviewed with subject matter experts from the University of Arizona to validate interpretation and ensure alignment with Medicaid policy priorities.

Several limitations should be noted. As an observational study, the findings reflect associations rather than causal proof, and unmeasured differences between the two cohorts may have influenced results. Additionally, ICD-10 counts, and program enrollment were used as proxies for medical complexity, rather than more formal risk-adjustment tools such as the Pediatric Medical Complexity Algorithm. Despite these limitations, the analysis provides credible, state-specific evidence that helps inform the policy discussion on how Arizona can best serve its most medically complex children.

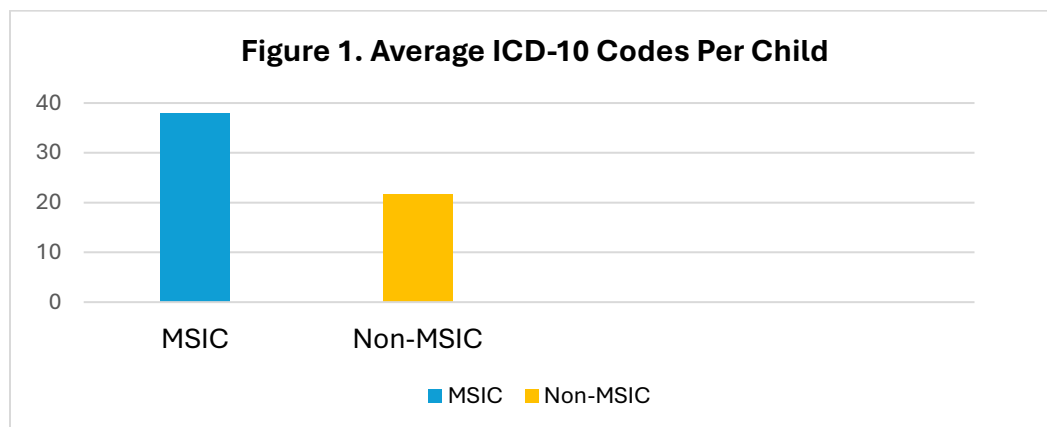
## FINDINGS

The analysis reveals clear and significant differences between the MSIC and non-MSIC groups across measures of patient complexity, health outcomes, and cost-effectiveness. The results demonstrate that the MSIC model is serving a more complex population while achieving better outcomes at comparable or lower costs.

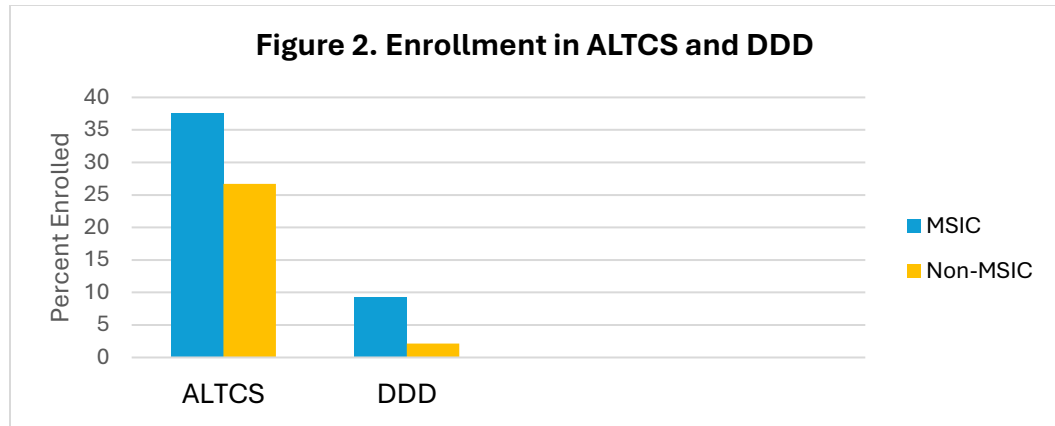
### A. PATIENT POPULATION AND COMPLEXITY

The data suggests that MSICs serve children with a significantly higher burden of illness. This dispels the notion that the model's success is due to serving a less complex patient population.

- **Greater Medical Complexity:** As shown in Figure 1, MSIC patients presented with an average of 37.9 ICD-10 codes, compared to just 21.6 for non-MSIC patients, indicating a greater number of comorbidities.



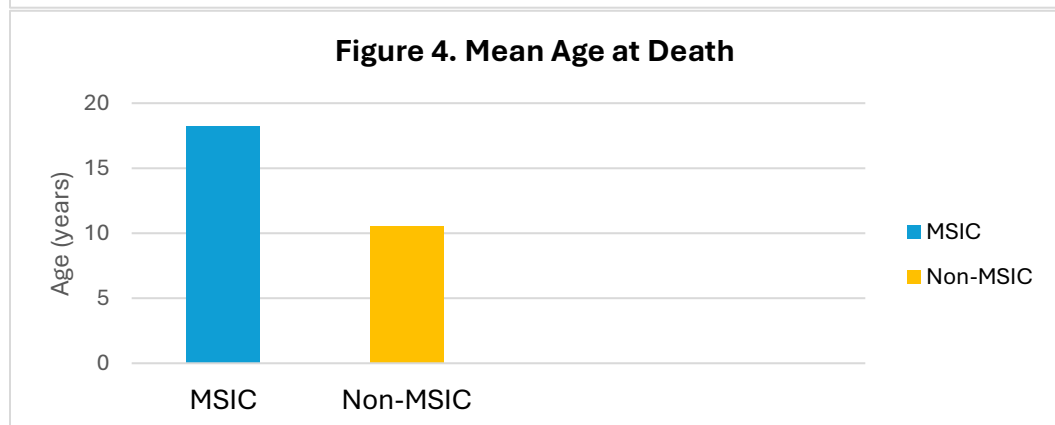
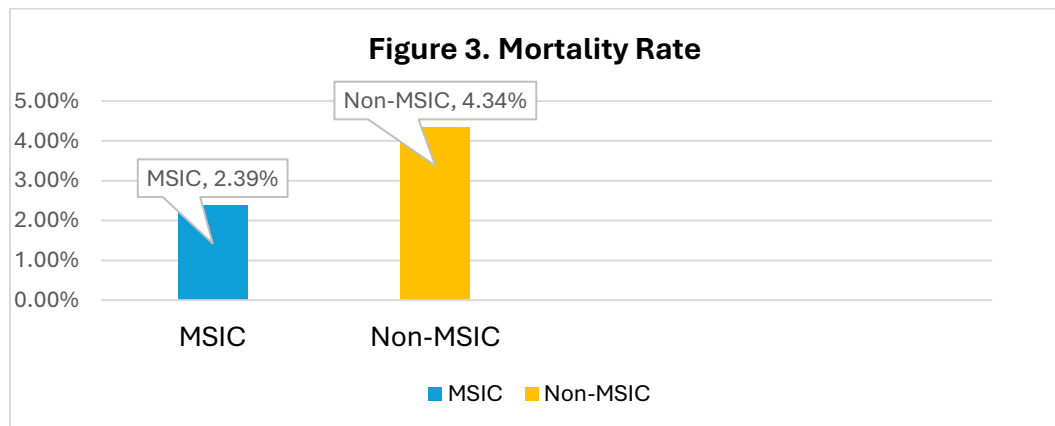
- **Greater Need for Support Services:** Figure 2 demonstrates a higher proportion of MSIC patients were enrolled in Arizona's Long-Term Care System (ALTCS) (37.6%) and the Division of Developmental Disabilities (DDD) (9.23%) compared to the non-MSIC group (26.7% and 2.12%, respectively). These figures highlight the more intensive level of care required by the MSIC cohort.



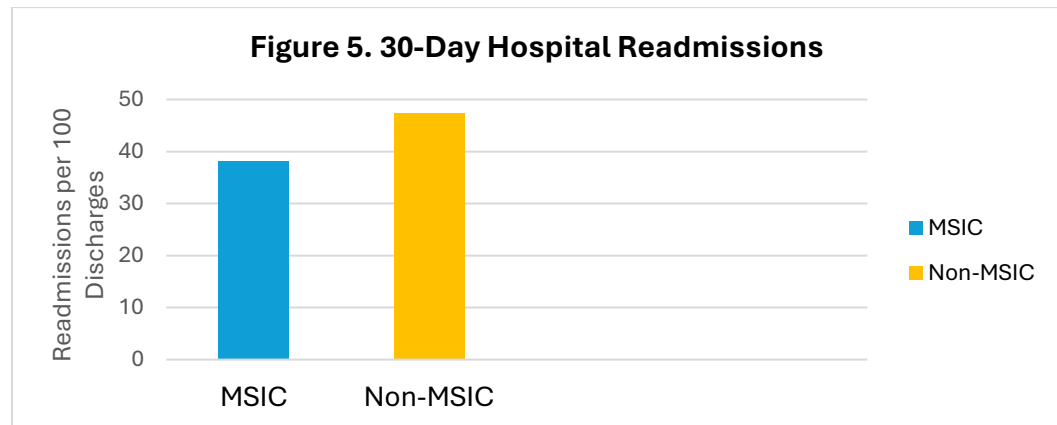
## B. IMPROVED HEALTH OUTCOMES

Despite serving children with greater clinical complexity, MSICs were associated with better health outcomes across multiple measures.

- Reduced Mortality and Increased Longevity:** Mortality rates were 50% lower for MSIC patients, with a rate of 2.39% compared to 4.34% in the non-MSIC group (Figure 3). Furthermore, among decedents, MSIC patients were an average of 18.2 years old, compared to only 10.5 years old for non-MSIC patients (Figure 4).



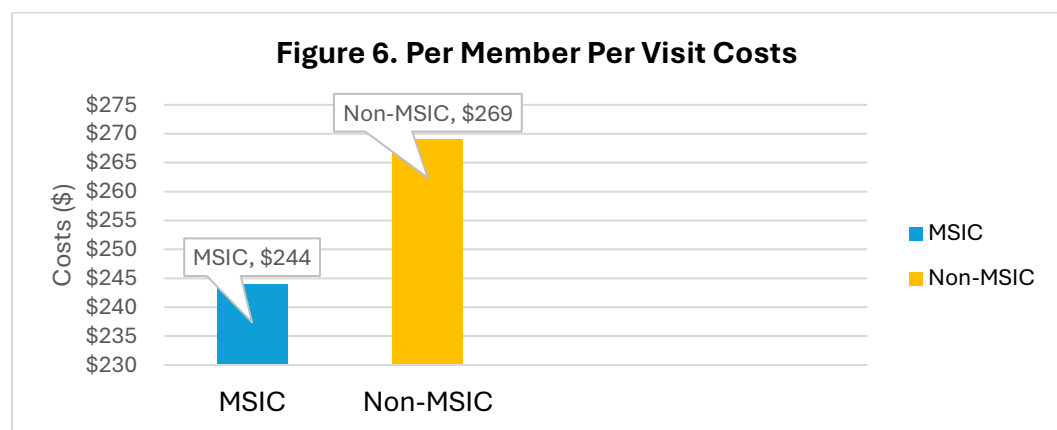
- Fewer Hospital Readmissions:** As illustrated in Figure 5, MSIC patients had a lower average readmission rate (38.1) compared to the non-MSIC patients (47.4). This suggests that the model's focus on preventive care, chronic disease management, and care coordination leads to more stable health and fewer acute, inpatient crises.



### **C. COST EFFECTIVENESS**

The MSIC model also demonstrates strong cost performance. Despite higher acuity, average total costs were comparable or slightly lower.

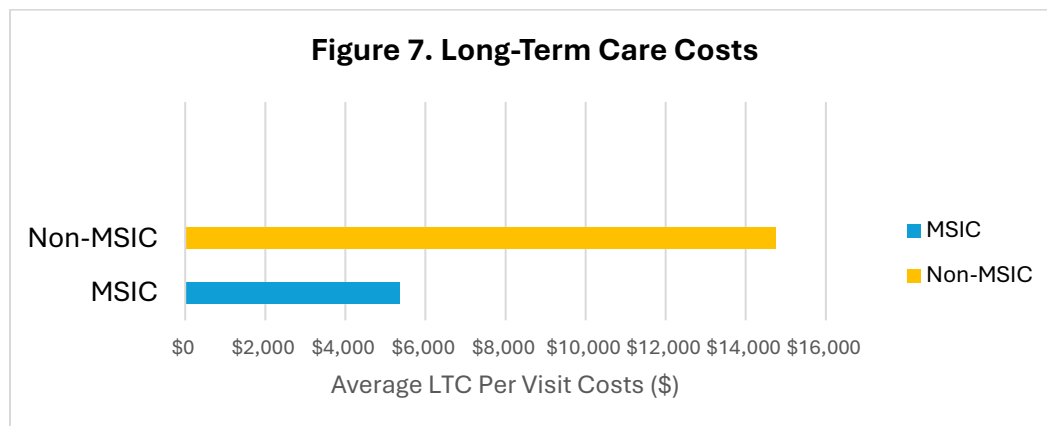
- Comparable Overall Per Capita Costs:** The average per capita total cost of care for MSIC-enrolled children was \$244, which is comparable to, and slightly lower than, the \$269 for non-MSIC patients (Figure 6).



- Savings in High-Acuity Care:** The most significant cost efficiencies were observed in high-acuity long-term care (LTC) services. Among those enrolled in LTC, MSIC patients had an average per-visit cost of just \$5,350, a reduction of more than 60% compared to the \$14,740 incurred by non-MSIC patients. These results underscore the MSIC model's ability to deliver higher-quality care without



driving higher overall expenditures, and in some domains, achieving significant savings.



## RECOMMENDATIONS

The evidence presented indicates that the Arizona MSIC model is not only clinically effective but also cost-efficient and aligned with Medicaid’s strategic goals. To ensure sustainability and expansion of this model, several policy actions are recommended.

**Enhance Funding Mechanisms.** AHCCCS should ensure that reimbursement structures explicitly support the integrated, multidisciplinary care inherent in the MSIC model. Current financing approaches often undervalue preventive outpatient services and care coordination, despite their demonstrated role in reducing high-acuity costs such as hospital readmissions and long-term care expenditures (Figures 5 and 7). Establishing enhanced payments or bundled rates for team-based, coordinated care would recognize the value of these services and provide financial stability for providers.

**Incentivize MSIC Utilization.** Policymakers should consider incentives for managed care organizations and pediatric providers to expand use of MSICs, particularly for high-needs children. The data demonstrate that MSICs serve children with greater illness burden (Figures 1 and 2) yet achieve lower mortality and fewer readmissions (Figures 3 and 5). Incorporating MSIC participation into performance metrics, value-based purchasing arrangements, or quality withholds could accelerate adoption of the model and spread its benefits more broadly across the state.

**Scale the Model for Broader Application.** While the MSIC model has primarily served children in the Children’s Rehabilitative Services (CRS) program and, more recently, those enrolled in DDD, its principles of centralized, team-based, and proactive care are relevant across the broader pediatric Medicaid population with complex needs. Expanding access to the model would ensure that more high-needs pediatric populations receive coordinated, family-centered care, positioning Arizona to achieve broader efficiencies and improved outcomes while advancing Medicaid’s priorities around population health management and equity.

**Integrate the Model into Waiver and Contract Strategy.** Finally, Arizona’s Section 1115 demonstration waiver renewal presents a timely opportunity to formally embed the MSIC model into the state’s long-term Medicaid strategy. Explicitly including MSIC support in the waiver and aligning managed care contracts to sustain the model would safeguard its future while signaling to CMS Arizona’s innovation and commitment to evidence-based approaches that improve outcomes and reduce costs.

## CONCLUSION

The evidence is clear: the Arizona Multispecialty Interdisciplinary Clinic (MSIC) model delivers measurable value for children with the most complex health needs. By serving a population with greater clinical complexity, the MSIC has demonstrated lower mortality, longer survival, reduced hospital readmissions, and significant cost efficiencies in high-acuity services. These results show that the model not only improves health outcomes but also strengthens the fiscal sustainability of Medicaid.

To maintain this progress and extend its benefits, Arizona must act decisively. Strengthening funding mechanisms will ensure that team-based, preventive care and dedicated coordination are properly resourced. Creating incentives for broader utilization will expand access for children who could benefit but are not yet enrolled. Scaling the model across pediatric populations beyond CRS and DDD will extend its reach to children with other complex conditions who face similar barriers. Embedding the MSIC model within Arizona’s Section 1115 waiver renewal and managed care contracts will secure its long-term sustainability and signal to CMS a commitment to innovation grounded in evidence.

Continued investment in the MSIC model is more than a programmatic choice; it is a strategic imperative. By reinforcing and expanding this approach, Arizona can improve health equity, deliver higher-value care, and fulfill Medicaid’s mission to protect its most vulnerable children. The decisions made in the upcoming waiver renewal and contract redesign will determine whether Arizona preserves this proven model and positions itself as a national leader in complex pediatric care.

**Despite serving children with greater clinical complexity, MSICs were associated with 50% lower mortality, fewer hospital readmissions, and comparable or lower costs.**

## REFERENCES

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