Building Capacity for Complexity: A Framework for Scaling Acute Care Cardiology Scope to Meet Evolving Patient Needs

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Background

- Survival of pediatric patients with heart disease is improving, with 90% of patients in developed countries living into adulthood.
- With recent innovation & positive outcomes, survival trends locally have seen similar improvement
  - Overall STS risk-adjusted mortality <1.5%
- Volume and complexity of patients requiring hospitalization within our Heart Center has amplified, straining bed capacity and limiting access to cardiac intensive care unit (CICU) beds.
- Multidisciplinary leadership undertook a strategic evaluation of inpatient cardiac care needs to safely and efficiently address capacity constraints

Aim

- With the aim of meeting the rising patient care demands, our Heart Center initiated an expansion of ACCU bed capacity to 44 beds.
- Utilizing the Consolidated Framework for Implementation Research (CFIR), our project team sought to evaluate and implement monitoring, medication, and respiratory support modalities that could safely transition from CICU to ACCU.

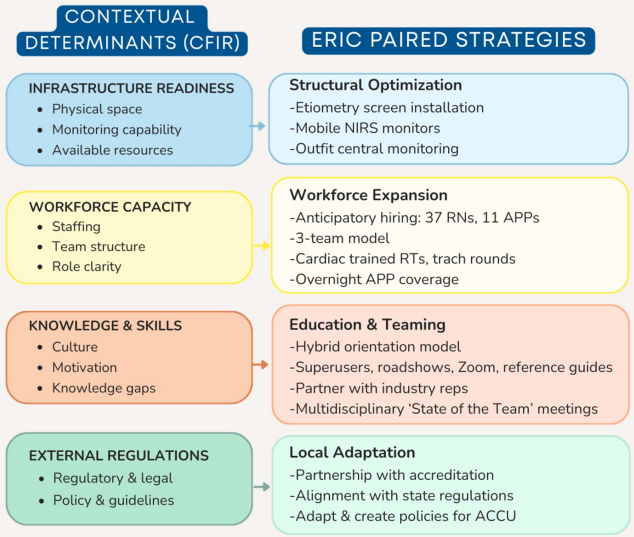


Figure 1: Pairing CFIR + ERIC. CFIR helps identify what needs to change and why; ERIC helps select how to change it by mitigating barriers and leveraging facilitators.

Methods

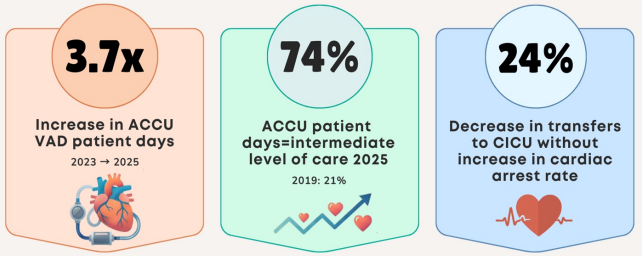
- **Step 1**: Evaluated context of proposed changes to identify barriers, facilitators, and readiness for ACCU scope expansion (Figure 1).
- **Step 2**: Utilized the Expert Recommendations for Implementing Change (ERIC) taxonomy to intentionally match strategies with identified barriers.
- Modalities were appraised for feasibility and prioritized to align with the incremental bed capacity expansion timeline (Figure 2)
- Operational supports established to facilitate phase 1 expansion (Figure 1)
- Iterative PDSA cycles utilized to test modalities, refine workflows, and identify ongoing training needs during unit expansion.

Figure 2: Prioritization & Progress of Modality Implementation

MODALITY	PRIORITY	STATUS
HHFNC PARAMETERS (2L/KG)	High	Completed
TRACH/VENT SETTINGS	High	In progress
PRIMARY HC RT GROUP	High	In progress
PRECEDEX	High	In progress
END TIDAL MONITORING	High	LIMITED UTILITY
ETIOMETRY	High	Completed
CPAP/BIPAP INITIATION	Medium	In progress
REMODULIN INITIATION	Medium	In progress
NIRS	Medium	completed 10/25
DOPAMINE INITIATION	Low	Not started
STABLE PGE	Low	LIMITED UTILITY
CVP MONITORING	Low	Under review - revisit in 2026

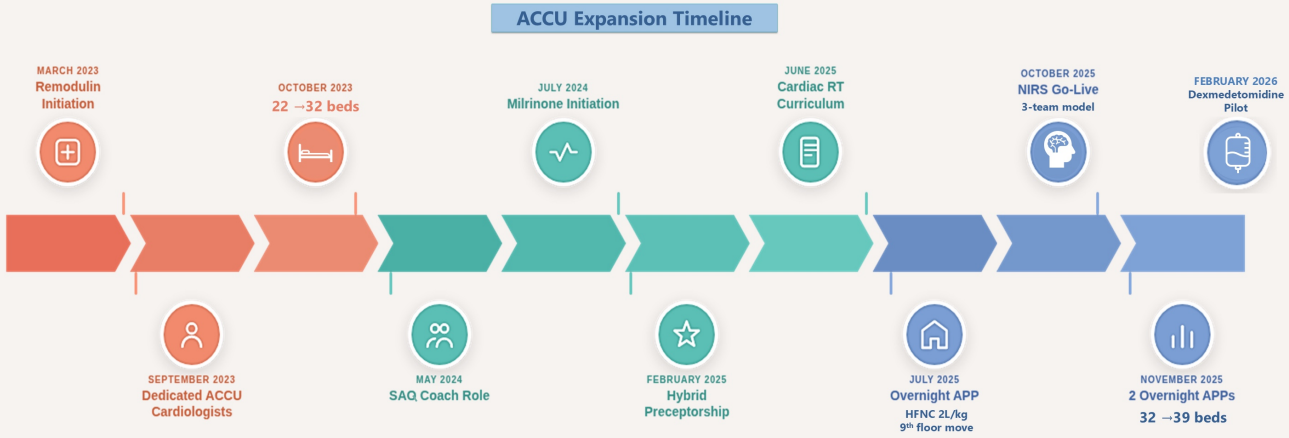
Results

- The ACCU successfully integrated several intermediate-acuity therapies previously limited to the CICU, **doubling bed capacity** outside the CICU since 2023.
- Preliminary data indicates safe adoption of therapies.
- Clinical scope modifications & phased bed capacity increases continue into 2026, with additional modalities, policies and workforce development in progress



Conclusions

- Since launching the first phase of expansion the ACCU has cared for higher acuity patients, sustained an increased census and facilitated improved CICU access for complex patient referrals.
- The expansion of ACCU capabilities using CFIR-guided implementation demonstrates a scalable, phased approach to safely meet the demands of rising inpatient complexity and enhance critical care capacity.



Contact & references: