

Capstone for Impact Submission | GY2021

Project Title: Develop quality care facilities and resources for pediatric patients with chronic, complex medical needs in Michigan

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If this project can be continued by another UMMS student, please include your contact information or any other details you would like to share here:

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Summary:

There has been a persistent presence of pediatric patients each year that remain in Michigan Medicine's pediatric intensive care unit (PICU), neonatal intensive care unit (NICU), or stable vent unit (SVU) for months to years after being medically ready for discharge from the hospital.

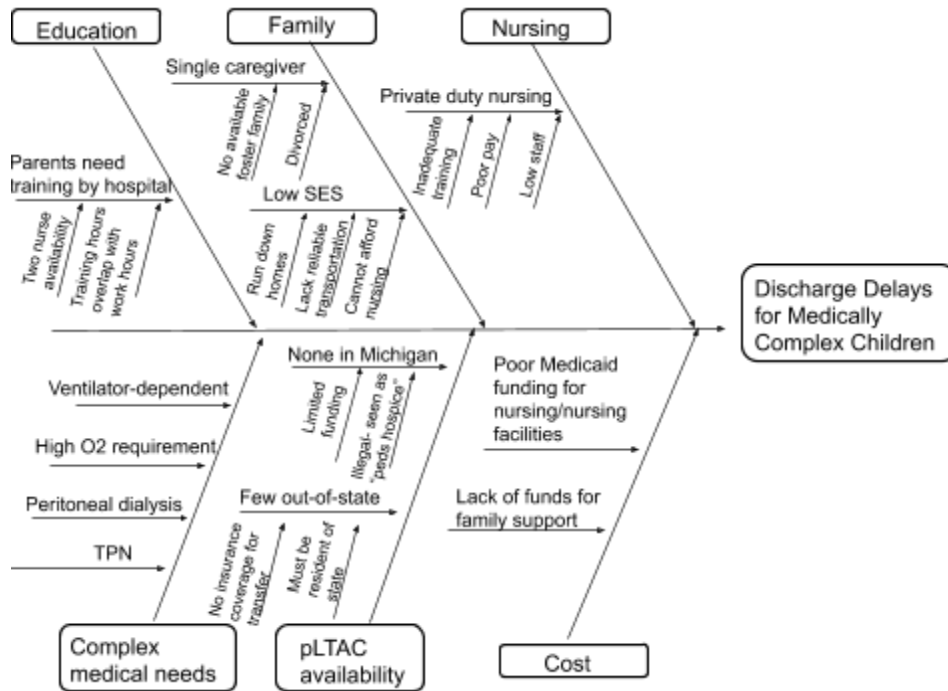
Discussions with social workers and care managers in the PICU have revealed the frustration and difficulty that comes with placement upon discharge for pediatric patients with ongoing critical care needs. Families must learn how to care for these medically complex children while making arrangements at home and work to accommodate their child's time-intensive care needs. Unfortunately, skilled nursing facilities, rehabilitation facilities, and nursing homes are not available options for children as they are for adults.

Pediatric patients should have a discharge option with a step-down level of care from the ICU, but more intensive than on the general medicine floor.

Methodology:

Interviews were conducted with two PICU Social Workers, PICU Nurse Care Manager, and Care Management Nursing Supervisor to identify causes of discharge delays for medically-complex pediatric patients and set goals for future improvement.

Results:



GOALS

From long-term to short-term:

- 1) Provide adequate support for families with chronically critically-ill children in transition from the PICU to home.
 - a) Create pLTACs throughout Michigan, starting with one small facility near Michigan Medicine, then slowly expanding throughout the state depending on patient distribution.
- 2) Mimic pLTAC environment within the hospital
 - a) Create a step-down unit in a room most similar to a home setting. Allow for ongoing education for family and use home equipment. Start with 1-2 rooms and expand capacity until no pediatric patients per year have extended ICU stays.
- 3) Reduce staff distress
 - a) Allow patients to be discharged to an alternate unit or bed to adjust expectations for caregivers who are used to caring for more acutely ill children.

Conclusion:

There does not yet appear to be a clear need for a separate facility such as a pLTAC in Michigan due to the small population this problem affects. The financial limitations of increasing nursing resources are a much larger problem beyond what can be addressed on a smaller scale first. In addition, the socioeconomic

background of these families cannot be easily changed. Therefore, we recommend focusing on changes within Michigan Medicine to slowly mimic a pLTAC-environment, and improve data collection on the characteristics of this pediatric patient population.

- Consider adjusting the nursing-to-patient ratio in the SVU from from 2:1 to 4:1 when including discharge-ready patients.
- The amount of SVU beds has increased from 4 to 10 since its establishment. Consider adding more beds until no patients remain in the PICU or NICU due to full capacity.
- Add a tracking function within MiChart, rather than through a separate application as it is currently, to collect data on “delay days”. This includes patients who remain hospitalized at least one day after medically ready for discharge.
- Compile historical data of codes for reasons of delay days to identify the most common root cause of extended hospital stays.

Reflection/Impact Statement:

1. How did the process of conducting this research confront any limitations of your prior thinking?
 - a. This research allowed me to view the health system beyond a physician’s role in direct patient care. I was able to appreciate the barriers physicians may face when trying to advocate for better care or resources for their patients within a hospital system. I now have a better understanding of how administration and teams within a hospital run.
2. Who could potentially benefit from this CFI project over different timescales and how?
 - a. In the short term, nurses and staff would benefit by caring for the higher-acuity level of patients they expect to spend time with. Over the long term, ICU resources and beds would be better allocated and available for the patients who need them. Pediatric patients with intensive needs would eventually be placed in a more appropriate setting outside of the hospital, but comfortable enough to address the needs of the supporting family.
3. What actions will you take afterwards to continue the momentum of this project, and maximise the likelihood of the identified benefits being achieved?
 - a. I would continue to follow up with social work, PICU care managers, and nursing staff on the immediate short term goals identified. These will most likely come with new small challenges that would need to be addressed and goals changed in small increments to allow progress toward the long-term goals. In addition, collection of data through MiChart should be monitored to more accurately identify the cause of extended hospitalizations.
4. What advice would you give to another student completing their CFI?
 - a. Identify an idea for a capstone early and reach out to mentors as soon as possible during the clinical year to allow plenty of time to complete the project or, if needed, pursue an alternate project. Do whatever interests you; my project was not necessarily related to my projected career path and it was still an interesting point to talk about in interviews.