

Using Hemoglobin A1c as an Indicator of Pediatric Diabetes Transition of Care between Inpatient and Outpatient Settings

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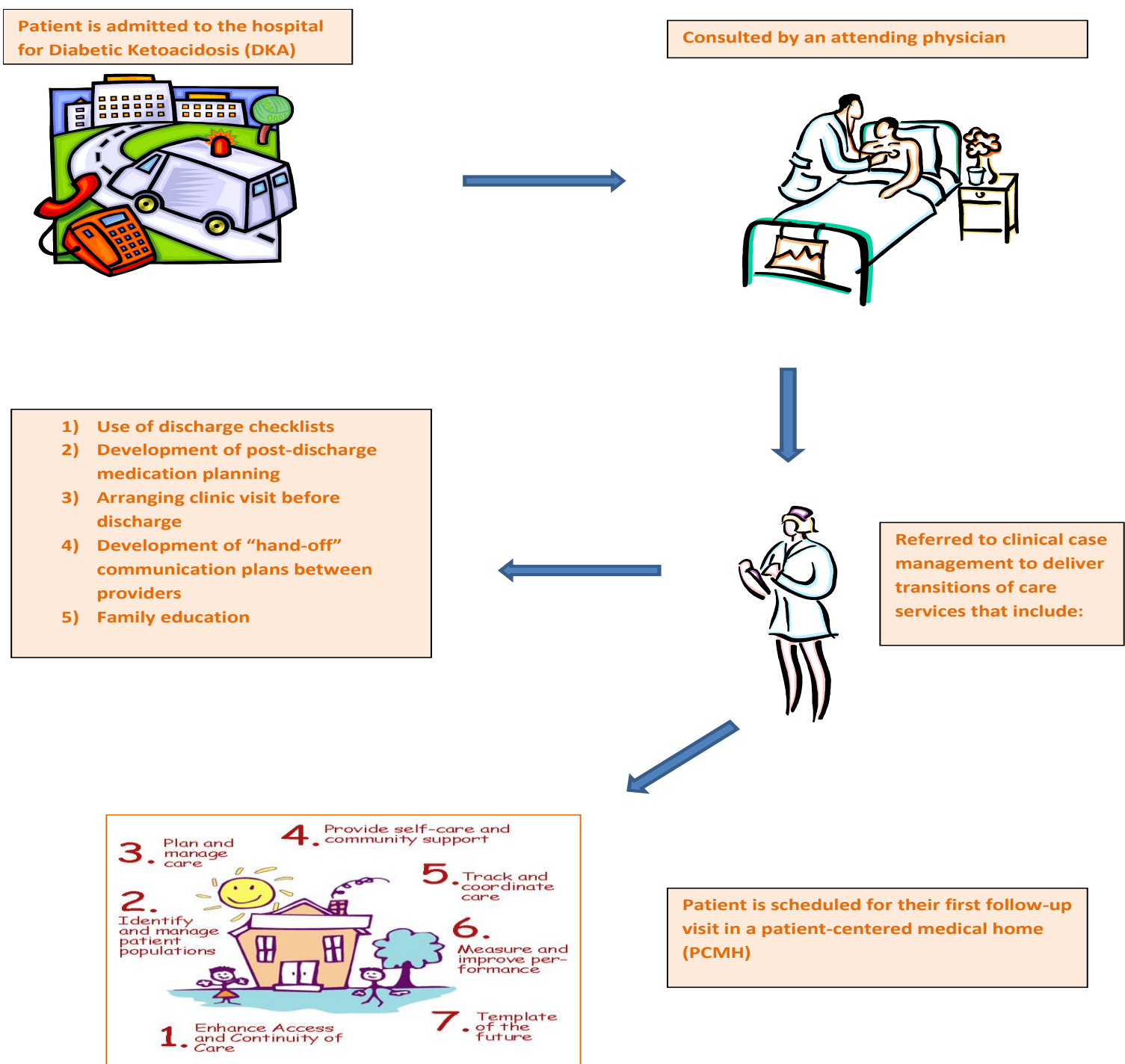
Background

- There is evidence that care coordination and transitional care can reduce unplanned hospital readmissions, which are an indicator of quality of care and a source of significant wasted hospital resources and expenditures^{1,2}.
- When a patient is discharged without optimal follow-up, it could have terrible consequences such as hospital readmission and possibly death.
- A comprehensive and reliable discharge plan, along with proactive post-discharge support, can reduce readmission rates and improve health outcomes³.
- Monitoring the follow-up of newly diagnosed diabetes ketoacidosis (DKA) children is a cornerstone in pediatric diabetes care⁴.
- The Hemoglobin A1c (HbA1c) test is the most commonly used measurements in the assessment of diabetes glycemic control reflecting the average glycemic control over past 3 months and predict the occurrence of diabetes related complications.
- Through the Texas Healthcare Transformation and Quality Improvement Program Medicaid 1115 Waiver, UT Physicians (UTP) and Memorial Hermann – Texas Medial Center (MH-TMC) has implemented an evidence-based transition of care program for diabetic children to ensure continuity of care from hospital discharge to clinic follow-up.

Objective

- To evaluate the impact of the pediatric diabetes transition of care using HbA1c results.

The experience for a DKA patient



Methods

- Pre and post study was conducted among pediatric DKA patients who received transition of care services at MH-TMC during October 2013 through September 2016.
- The percentage of patients with uncontrolled age-adjusted HbA1c levels during hospitalization was compared to the percentage at outpatient follow-up visit.
- The benchmark for uncontrolled HbA1c level was greater than 8% for patients age < 5, greater than 7.5% for patients age 5-10, and greater than 7% for patients age 11-18.

Results

- A total of 102 pediatric patients with type 1 and type 2 diabetes were followed through their hospital admission with DKA to their follow up clinic visits.
- Out of 102 patients, more than 99% had an age-adjusted uncontrolled HbA1c in the hospital. (Table-1)
- This number went down to 91.1% at the first follow-up outpatient visit and 65.7% within 6 months of hospital discharge. (Table-1)

Table 1: The percentage of patients who had an uncontrolled hemoglobin A1c value

Uncontrolled HbA1c (N=102)	Percent
Hospitalization	99.02%
Follow-up Clinic Visit	91.18%
Latest Clinic Visit	65.69%

Conclusion

- Under the transition of care, there was a significant improvement in HbA1c level.
- Testing HbA1c as an indicator of diabetes control and progression can provide an immediate feedback to the patient, family and physician regarding diabetes care.
- Comparing the HbA1c levels between inpatient and outpatient settings is a simple concept to educate the family about the improvement of diabetes control.

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