

## Building the Bridge Between Pediatric & Adult Diabetes Care: Making the Connection

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  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
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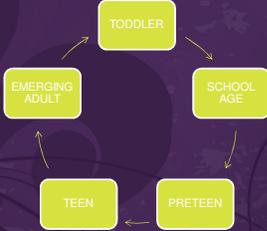
### Educational Objectives



- To identify barriers to transition
- To identify complications & cost related to “loss to follow up” when emerging adults do not complete transition
- To identify beneficial elements of a structured transition program

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### PEDIATRICS AND TRANSITIONS



```

    graph TD
      Toddler[TODDLER] --> SchoolAge[SCHOOL AGE]
      SchoolAge --> Preteen[PRETEEN]
      Preteen --> Teen[TEEN]
      Teen --> EmergingAdult[EMERGING ADULT]
      EmergingAdult --> Toddler
    
```

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### Transition Begins.....

- Long before the physical move to the adult practice actually happens
- Discussion about transition begins at about the age of 12



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### Why Transition?

- The needs of emerging adults are different & unique
- Increasing independence may lead to “outgrowing” the pediatric team
- Transition will ultimately assist the emerging adult in being fully responsible for their diabetes care
- Adult providers may be better equipped to handle additional health changes

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### Our Goals

- A guided, therapeutic, educational transition rather than an administrative event
- Transitioning from child centered to adult oriented thought processes
- Keeping the initial phases of the transition family centered
- Complete coordination between the pediatric & adult practices

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### Background & Significance

**215,000 emerging adults <21 y/o with T1 DM; tens of thousands transition annually**

- **25%-40%** lost to follow up as they transition care
- Increased risk of acute & chronic complications
- **\$184 billion** spent on diabetes hospitalizations
- **Many barriers** to transition: providers, patients, parents, health care system

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### Review of the Literature



- **No standardized** process or best practice methods
- Many programs tried with **mixed results & limited outcome data**; most data from outside the U.S.
- Emerging literature indicating **little progress**
- Parental role gaining attention
- .....lot's of **discussion about the problems but not the solution**

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### Clinical Question



- Does a **structured transition program**, facilitated by coordinated efforts between pediatric and adult diabetes providers impact:
  - adherence to follow up?
  - psychometric measures?
  - development of acute complications or A1C?

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### Design/Methods/Procedure



- Mixed Method, Prospective, Longitudinal Study
- Joint visit with pediatric & adult provider transitioning the emerging adult together
- Transition coordinator facilitating appointments
- Chart review for adherence to follow up, acute complications/ hospitalizations, A1C

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### Methods/Procedure

- Emerging adults: Pre & post transition questionnaires (baseline & at first follow up, 3-6 months post transition)
  - Diabetes Quality of Life- Youth; short form
  - Diabetes Distress Scale
  - Health care climate questionnaire
  - Open ended questionnaire
- Parents:
  - Parent Diabetes Distress Scale
  - Open ended questionnaire



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### Project Progress



- 29 emerging adults transitioned (n=29)
- 29 have returned for routine follow up thus far
- 15 parents completed surveys
- Study is Ongoing:
  - Underpowered; will continue enrollment in the upcoming year to improve power
  - IRB approval for continuation of project

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### Demographics

	N	Mean	Minimum	Maximum
Age		21	18	26
Age at Diagnosis		8.7	1	18
Gender				
Male	17			
Female	12			
Ethnicity				
White	25			
Black	1			
Hispanic	2			
Other	1			
Education				
College	26			
High School	3			
Insurance				
Private	28			
Medicaid	1			

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### Summary of Pre & Post Transition Correlations

Pearson Correlation Coefficient

Measure	A1C	DDS	DQOL	HCCQ
A1C	-	✓✓	✓	✗
DDS	✓✓	-	✓✓	✗
DQOL	✓	✓✓	-	✗
HCCQ	✗	✗	✗	-

✓- correlation is significant at the 0.05 level (2-tailed). ✓✓- correlation is significant at the 0.01 level (2-tailed). ✗- no significant correlation.

Abbreviations: DDS, Diabetes Distress Scale; HCCQ, Health Care Climate Questionnaire; DQOL, Diabetes Quality of Life.

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### Statistical Significance of Psychometric Evaluations

Paired t-Test

- HCCQ:
  - t= -2.73, df= 27, p= 0.011
  - Biggest improvement noted in ability to ask questions, feeling understood, and feeling confident
- DDS:
  - t= 2.55, df= 27, p= 0.017
  - 44% reporting moderate to high distress pre-transition vs. 23.4% post-transition
  - Biggest reduction of distress noted in areas of regimen distress & emotional burden

Statistical significance = p< 0.05  
HCCQ= Health Care Climate Questionnaire, DDS= Diabetes Distress Scale

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## Parent Psychometric Evaluation

### Parent DDS (frequencies):

- 75% low distress
- 25% moderate distress

Worry about their relationship with their emerging adult  
Worry about their emerging adult in general

*"Highest scores on DQOL indicated that emerging adults felt their parents worried too much, that they were too protective, & that they acted like DM was their disease"*

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## Summary of Clinical Outcomes

Summary of Clinical Outcomes				
	N	Mean	Minimum	Maximum
A1C				
Pre	29	8.7	5.8	14
Post	29	8.4	6.3	12.2
Follow up				
Adherence	29			
Lost	0			
Complications				
Acute	1*			
Chronic	0			

\*One subject was hospitalized with DKA, secondary to a strep throat infection. This subject was adherent with follow up appointments.

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## Qualitative Results- Content Comparative Analysis

- Emerging Adults
  - Readiness for transition
  - Confidence/satisfaction with their DM provider pre & post transition
  - Process was easy
  - Feeling more in charge of DM & more informed
- Parents
  - Involved in making appointments & ordering supplies
  - 18-20 y/o: transition/ independent appointments
  - Received little education regarding transition

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## Implications for Diabetes Educators

- Seamless, uninterrupted health care
- Potential reduction in complications & health care costs
- Parents want and need continued education/involvement; keep them informed
- Program could be utilized with other chronic illnesses



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