IMPROVING CARE AND REDUCING COST: A COMMUNITY-BASED APPROACH FOR MANAGING TYPE 1 DIABETES FOR CHILDREN LIVING IN RURAL ARIZONA

DEVYN R. THURBER, MSN, MPH, PNP-BC

CHIRICAHUA COMMUNITY HEALTH CENTERS

ARIZONA RURAL HEALTH CONFERENCE

JULY 26, 2018
AGENDA

1. Type 1 Diabetes
2. Barriers to Care
3. The Chiricahua Model
I. Type 1 Diabetes
TYPE 1 DIABETES (T1D)

Art by Mike Natter
STATS

- In 2009, 1/518 (2%) youth <20 years had T1D in the US

- Between 2002-2012, new cases of T1D in youth increased by:
  - 1.8% each year for all youth
  - 4.2% each year for Hispanic youth

- The average cost for a DKA hospital admission = $7,500

- In rural areas, there are many barriers to achieving and maintaining good glucose control
II. Barriers to Care
GEOGRAPHICAL
SOCIOECONOMIC
- 85-90% Medicaid patients
- Uninsured patients
- Single parent households
- Working multiple jobs
- Split families
- Decreased health literacy/numeracy
CULTURAL
- Language barriers
- High carbohydrate diet
- Concurrent obesity
- Resistance to medication
III. The Chiricahua Model
THE CHIRICAHUÁ MODEL

INTENSIVE PRIMARY CARE

COMMUNITY OUTREACH

CONNECTION TO SPECIALISTS
INTENSIVE PRIMARY CARE
Intensive treatment with the goal of maintaining blood glucose concentrations close to normal range decreases frequency and severity of diabetes complications.

More frequent visits = better glucose control = less long-term issues.
PROVIDER “SPECIALISTS”

- Monthly diabetes follow-ups
- Monthly A1c
- Download software
- On-site pump trainings
- Primary care/acute visits
PROVIDER TRAININGS
INTEGRATED HEALTH

NUTRITION

BEHAVIORAL HEALTH

DENTAL
## 340B PROGRAM FOR UNINSURED PATIENTS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Retail Cost</th>
<th>Sliding Fee Price</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pen Needles</td>
<td>32.55</td>
<td>13.54</td>
<td>19.01</td>
</tr>
<tr>
<td>Test Strips</td>
<td>11.26</td>
<td>8.74</td>
<td>2.52</td>
</tr>
<tr>
<td>Humalog</td>
<td>337.23</td>
<td>4.42</td>
<td>332.81</td>
</tr>
<tr>
<td>Levemir</td>
<td>440.41</td>
<td>4.42</td>
<td>435.99</td>
</tr>
<tr>
<td><strong>Total Monthly Cost</strong></td>
<td><strong>821.45</strong></td>
<td><strong>31.12</strong></td>
<td><strong>790.33</strong></td>
</tr>
</tbody>
</table>

For a 90-day supply of insulin:
- Retail price = > $2,000
- Sliding fee price = $10
FUTURE: HOME VISITATION
CONNECTION TO SPECIALISTS
PATIENT-CENTERED MEDICAL HOME
TELEMEDICINE
FUTURE: VISTING SPECIALISTS

Pediatric Endocrinology Care
Accepting New Patients

The pediatric endocrinologists specialize in providing diagnosis, care, and health management for:
- Juvenile Diabetes
- Transgender
- Adrenal and pituitary disorders
- Metabolic disorders
- Calcium disorders
- Thyroid disorders
- Congenital adrenal hyperplasia
- Menstrual irregularities
- Obesity

TMOnet entusiastically welcomes pediatric endocrinologists Chetan Patel, M.D. and Priti Patel, M.D.

Call (520) 324-1010 to schedule an appointment

TMOnet

2380 N. Ferguson Ave. #104
(520) 324-1010 • Fax (520) 324-0029
www.TMOnet.com
TRAININGS FOR LOCAL NURSES
504 PLAN MEETINGS

SAMPLE SECTION 504 PLAN

The attached sample Section 504 Plan was developed by the American Diabetes Association (ADA) and the Disability Rights Education and Defense Fund, Inc. (DREDF). For further information, see the ADA Position Statement, “Diabetes Care in the School and Day Care Setting.” (Diabetes Care, Volume 27, Supplement 1, January 2004).
CONNECTION TO GREATER TYPE 1 COMMUNITY
SO, HOW DO WE MEASURE UP?
Each year, approximately 7% of patients with T1D are admitted for DKA.

Between 2017 and 2018, 3.3% of our patients with T1D were admitted for DKA.

Between 2017 and 2018, our 30 patients were seen in the ED a total of 2 times for issues related to their diabetes.
According to our Medicaid claims data, between 2017 and 2018, our 15 patients with type 1 diabetes had a:

- 20% reduction in number of hospital admissions
- 31% reduction in days spent in the hospital
- 51% reduction in number of ED visits
Pediatric DM Type 1 Annual ED/1000 Trend

<table>
<thead>
<tr>
<th>Member Months</th>
<th>ED Visits/1,000</th>
<th>ED Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>127</td>
<td>1,228.3</td>
<td>13</td>
</tr>
<tr>
<td>159</td>
<td>603.8</td>
<td>8</td>
</tr>
</tbody>
</table>

12 mos end 2/2017:
- ED Visits: 13
- ED visits/1,000: 1,228.3
- Member Months: 127

12 mos end 2/2018:  
- ED Visits: 8
- ED visits/1,000: 603.8
- Member Months: 159

<table>
<thead>
<tr>
<th>12 Mo Totals</th>
<th>Previous FEB 2017</th>
<th>Current FEB 2018</th>
<th>Net Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Mo Totals</td>
<td>1,228.3</td>
<td>603.8</td>
<td>-51%</td>
</tr>
</tbody>
</table>
For one of our patients with T1D:

2017: 1 ED visit, 1 hospital admission = $3,117 PMPM cost

2018: 0 ED visits, 0 hospital admissions = $459 PMPM cost

For a total cost savings of:

$2,558 per month
$30,696 per year
QUESTIONS?
REFERENCES


IMPROVING CARE AND REDUCING COST: A COMMUNITY-BASED APPROACH FOR MANAGING TYPE 1 DIABETES FOR CHILDREN LIVING IN RURAL ARIZONA

Devyn R. Thurber, MSN, MPH, PNP-BC
Chiricahua Community Health Centers

Arizona Rural Health Conference
July 26, 2018