



Intervention for Youth Repeatedly Hospitalized with Complex Medical Conditions: NICHD

**Michael A. Harris, PhD, Kim Spiro, PhD
Matthew Heywood, MPH, David Wagner, MA, Dana Hoehn, MA**

The Problem

- Doernbecher Children's Hospital 2008-2011
- 279 youth hospitalized 2x
- 82 youth hospitalized 3x
- 148 youth hospitalized 4x
- **230 youth (4.5% of all patients)**
 - **3+ hospitalizations**
 - **27% of hospital charges or \$67,000,000**
 - **20% of admissions**
 - **More than 40% Medicaid**

Show Me the Money

4.4 million hospitalizations

\$31,000,000,000

Determined preventable or avoidable

Children accounted for 276,000

\$737,000,000

Jiang HJ, Russo CA, Barrett ML. *Nationwide Frequency and Costs of Potentially Preventable Hospitalizations, 2006, HCUP.*

Bending the Curve In Medicaid

- **2-4% of patients utilize 50% of medical resources**
- **Triple Aim:**
 - Reducing costs
 - Improving health
 - Improving care
- **NICH (Novel Interventions in Children's Healthcare)**
 - Intensive Behavioral Health
 - Case management
 - Care coordination

**Integrated Healthcare for Oregon
Youth**

(100,000+ youth on Medicaid)

**Oregon Youth with
Special Health Care
Needs and Complex
Medical Conditions on
Medicaid**

(20% – 20,000+)

**High Utilizing
Oregon Youth on
Medicaid with
Complex Medical
Conditions**

(2%-5% – 2000+)

→ NICH

NICH Families

- **Marginalized by the healthcare system**
- **Children's health moves down on priority list because of families being heaped under a mound of psychosocial challenges**

NICH

Care Coordination

Attend Clinic Appointments
Ensure Transportation to Clinic
Adequate Medical Supplies
Liaison Between Medical and Family
Contact Prior to Hospitalization
Care Ambassador/Navigator

Behavioral Family Systems Therapy

Family-Based Problem Solving
Communication Skills Training
Family Roles and Structure
Management of Family Conflict
Establish Proper Supervision

CF
Diabetes
ESRD
Cancer
Pain

Case Management

Working with School
Assistance with Job/Work
Interface with DHS
Access to Drug/Etoh Treatment
Assistance with DV Issues
Insecure Housing
Other Resources for the Family

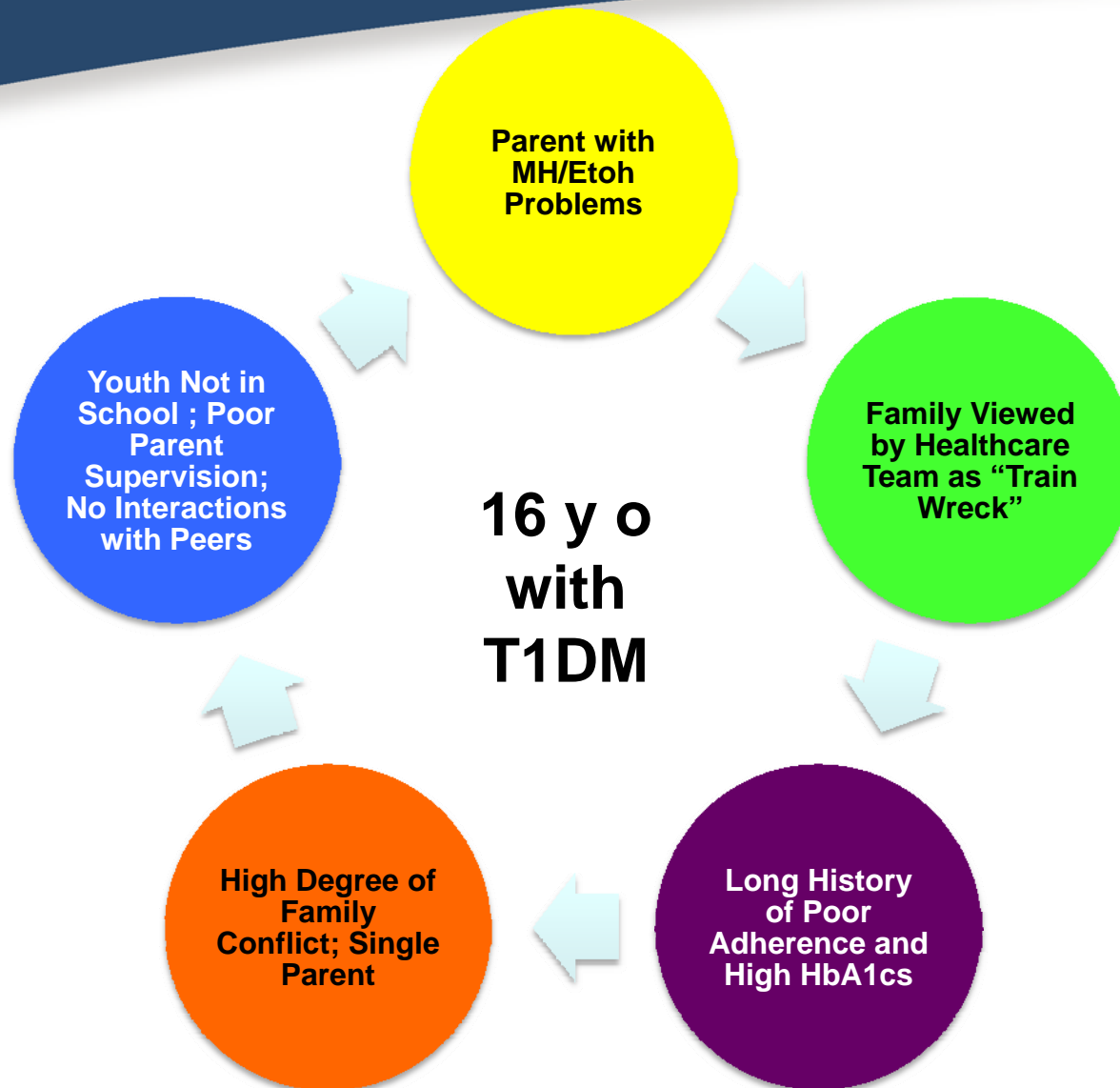
NICH Intervention

- **24/7 therapeutic support**
- **BFST – family-based problem solving**
- **Pragmatic & systematic behavioral intervention**
- **Case Management and Care Coordination across contexts**
 - **Medical**
 - **Social services**
 - **Community mental health**
 - **School**
- **School consultation**
- **Employment, social and life skills coaching**

Delivery of Care

- **Inpatient**
- **Clinic**
- **Tele-health**
 - **Skype (1-2x/wk)**
 - **Text (daily)**
 - **Phone (daily)**
- **Home visits (weekly)**
- **Care coordination (daily)**
- **School visits (as necessary)**

NICH Case



Systems Challenges

- **Inpatient vs. Outpatient Medical Providers**
- **Disciplines**
 - Physicians
 - Nurses
 - Social Workers
 - Child Life
- **Insurance**
 - Case managers
 - Medical directors
 - Beaucroatic systems

(More) Systems Challenges

- **DHS**
- **Schools**
- **.....**

Where the Rubber Meets the Road

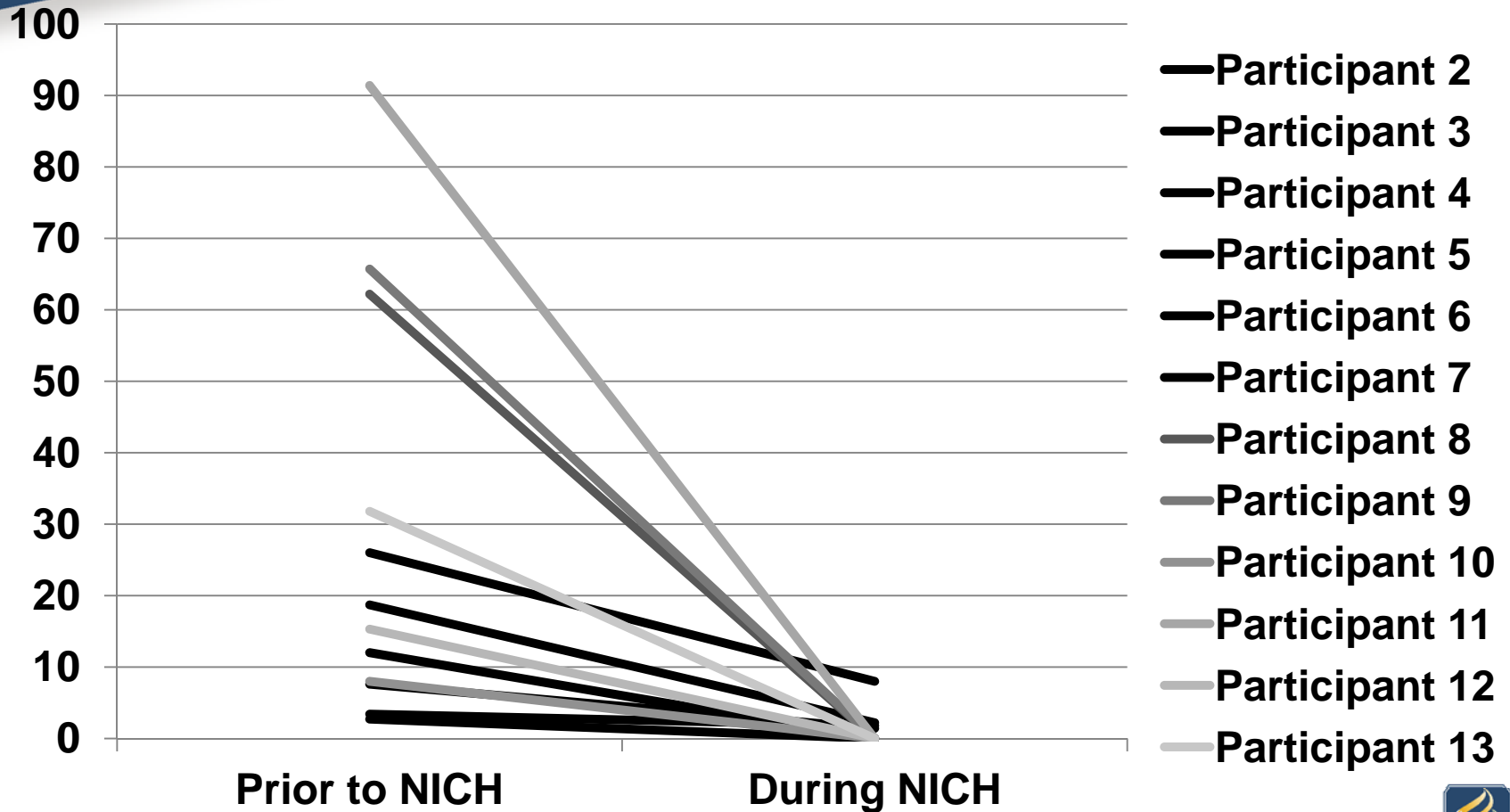
- **Establish rapport & get “buy in”**
- **Understand context & challenges**
- **Clarify expectations**
- **Determine next steps**
- **Pay attention to and reinforce “small wins”**
- **Serve as care ambassador**
- **Assist in re-engaging with care**
- **Support disease management & problem solving**
- **Titrate services**

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Current NICH Diagnoses

- **5 Cystic Fibrosis**
- **10 Chronic Pain**
- **23 Diabetes**
- **4 Cancer/GVHD**
- **3 End Stage Renal Disease**
- **9 Other**
 - Eating Disorder
 - Spina Bifida
 - IBD
 - Preg/T1DM

Days Hospitalized/Year



Financial Outcomes of NICH

Diagnosis	YR Pre NICH	YR During/Post NICH	Difference	Insurance
ESRD	\$18,897	\$70,966	(\$52,069)	CareOregon
T2DM	\$8,363	\$865	\$7,498	CareOregon
CF	\$98,130	\$38,284	\$59,846	CareOregon
CF	\$20,800	\$9,501	\$11,299	CareOregon
Short Gut	\$139,298	\$3,959	\$135,339	CareOregon
ESRD	\$44,428	\$15,052	\$29,376	CareOregon
T1DM	\$14,694	\$1,165	\$13,529	CareOregon
Cancer/GVHD	\$375,657	\$231,477	\$144,180	CareOregon
CF	\$61,550	\$58,874	\$2,676	CareOregon
T1DM	\$12,632	\$2,799	\$9,833	CareOregon
Pain	\$9,008	\$1,597	\$7,411	CareOregon
CF	\$109,787	\$54,039	\$55,748	CareOregon
T2DM	\$7,044	\$563	\$6,481	CareOregon
Cardiology	\$256,210	\$46,428	\$209,782	CareOregon
Pain	\$3,949	\$821	\$3,128	CareOregon
T1DM	\$5,210	\$2,207	\$3,003	CareOregon
T1DM	\$25,469	\$6,239	\$19,230	WV - CCO
T1DM	\$58,294	\$26,380	\$31,914	WV - CCO
T1DM	\$4,741	\$265	\$4,476	WV - CCO
T1DM	\$14,175	\$498	\$13,677	WV - CCO
Pain	\$7,753	\$9,120	(\$1,367)	WV - CCO
Pain	\$30,102	\$594	\$29,508	WV - CCO
T1DM	\$16,357	\$1,586	\$14,771	WV - CCO
TOTALS	\$1,348,443	\$583,279	\$759,269	

The Cost of Care

- **CF Clean Out**
 - \$30,000/2wks
- **DKA**
 - \$15,000
- **Dialysis**
 - \$44,000/yr
- **Kidney Transplant**
 - \$269,000
- **Asthma**
 - \$9,000
- **Upper/Lower GI**
 - \$3,000

NICH Today

Medicaid Oregon CCOs

- **35 HealthShare**
- **12 Willamette Valley CCO**
- **5 DVIPA**
- **3 Intercommunity Plus CCO**

- **1 Out of pocket**
- **3 Private insurance**

- **59 patients total**
- **40 on waiting list and growing everyday**
- **9 counties served**

NICH Moving Forward

- **Interventionist in Central Oregon**
- **NICH contract with for 100+ high-utilizers**
- **NICH services to youth in southern WA hospitalized in Oregon**
- **Developing model for training and supervision of behavioral health consultants**
- **Adaptation of model to serve other populations**
 - **Piloting NICH as prevention model**
 - **Obesity, T2DM, and Medicaid**
 - **Mental health emergencies in the ED and PICU**
 - **NICU grads**
 - **Medically complex kids in foster care**
 - **Tiered approach to youth with recurrent/chronic pain**

Case 1: Medical History

- **19 y/o female with:**
 - **Acute Myeloid Leukemia S/P bone marrow transplant**
 - **Chronic GVHD of mouth, gut, and skin**
 - **Multiple infections**
 - **Pulmonary Embolism s/p treatment**
 - **Bronchiolitis Obliterans**
 - **Chronic pain**
 - **Morbid obesity**

Complicating Medical & Psychosocial Factors

- **Borderline personality disorder**
- **Depression with previous suicide attempt**
- **Anxiety with history of frequent panic attacks**
- **Pseudoseizures**
- **Narcotic abuse**
- **Non compliance**
- **Social/caregiver stressors**

NICH Presentations and Publications

Publications:

- Harris MA, Spiro K, Heywood M, Wagner D, Hoehn D, Hatten A, & Labby D. Novel interventions in children's healthcare (NICH): innovative treatment for youth with complex medical conditions. *Clinical Pract Ped Psychol* 1(2):137-145, 2013.
- Harris MA, Wagner D, Heywood M, Hoehn D, & Spiro K (under review). Treating the real cause of repeated DKAs in youth with T1DM: NICH work. *Diabetes Care*.

Abstracts:

- Harris MA, Spiro K, Heywood M, Hatten A, Hoehn D, Wagner D. Intensive behavioral health for youth repeatedly hospitalized for DKA: NICH work. [Abstract]. *Diabetes*, 73: 2013.

Presentations:

- Harris MA (Feb, 2013). *Research, after the fact: evaluating the effectiveness of an intervention for youth with repeated DKAs*. Paper presented at the 27th Annual Behavioral Research in Diabetes Group Exchange (BRIDGE). Tucson, AZ.
- Wilson AC, Wagner DV, Pedigo E, Heywood M, Spiro K, Harris MA (May, 2013) *Intensive behavioral health treatment for pediatric chronic pain: piloting NICH (novel interventions in children's healthcare)*. Paper presented at the 32nd Annual Scientific Meeting of the American Pain Society, New Orleans, LA.
- Wagner D, Spiro K, Heywood M, Hatten A, Hoehn D, Harris MA (May, 2013). *Evaluating health outcomes of novel intervention for children's healthcare*. Paper presented at the 1st Institute on Development and Disability Conference. Portland, OR.
- Wilson AC, Wagner DV, Pedigo E, Heywood M, Spiro K, Harris MA (May, 2013) *Novel interventions in children's healthcare (NICH): a promising treatment for intractable pediatric pain*. Paper presented at the 1st Institute on Development and Disability Conference. Portland, OR.
- Harris MA, Spiro K, Heywood M, Wagner DV, Hoehn D (Aug, 2013). *Intensive behavioral health for youth repeatedly hospitalized with complex medical conditions: NICH(e) work in pediatric psychology*. Symposium presented at the 121st Meeting of the American Psychological Association. Honolulu, Hawaii.
- Turner H, Wilson AC, Wagner DV, Pedigo E, Heywood M, Spiro K, Harris MA (Oct, 2013) *Reforming the delivery of pain management: novel interventions in children's healthcare (NICH)*. Concurrent session presented at the 23rd meeting of the American Society of Pediatric Management Nursing. Indianapolis, IN.

NICH

- Michael A. Harris, Ph. D.
- harrismi@ohsu.edu

- Kim Spiro, Ph. D.
- spiro@ohsu.edu

Questions?

