Using tiered intervention to stretch resources and meet Psychosocial Standards of Care for Pediatric Cancer

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Learning Objectives

1. Identify the school-related Psychosocial Standard of Care for Children with Cancer.
2. Understand the benefit of academic risk-based assessment using the Brief School Needs Inventory (BSNI).
3. Learn about benefits experienced in one program using universal risk assessment and related, tiered school intervention.
4. Opportunity to discuss ways such a service model can be used in a variety of settings.

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Nationwide Children's Hospital
Columbus, OH

- 240 new oncology patients per year
- 65 BMTs completed each year
- 30 new babies with Sickle Cell Disease each year
- Patients come from Dayton, Toledo, and West Virginia for more intensive care

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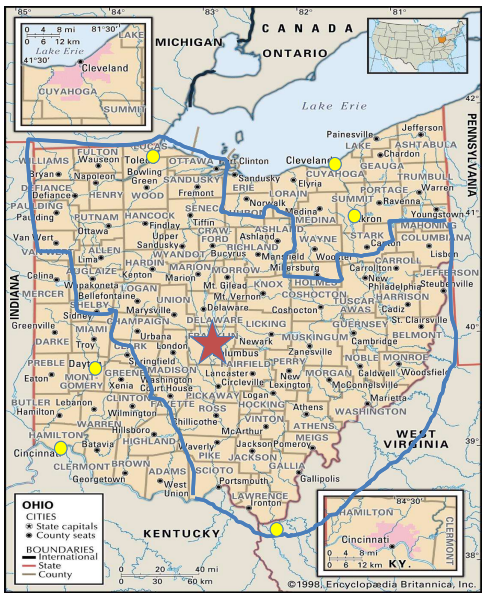
Catchment Area

- Central and Southeastern Ohio
- Northwestern Ohio
- Parts of West Virginia and Kentucky
- Out-of-State and International patients



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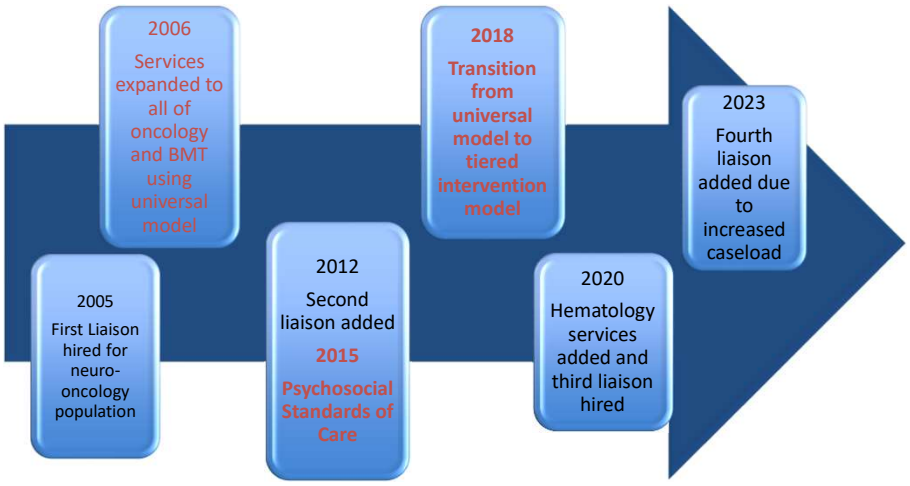
Program Timeline



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School Liaison Role

- Provide *information and education* to family, school, community, and medical team regarding the intersection and interaction of health and education systems
- Assessment of academic need
- Classroom visits for developmentally appropriate *education of peers*
- *Advocacy* for child related to support services at school
- *Monitor ongoing academic progress*
- *Collaborate* with medical and psychosocial care teams, as well as school team

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Universal Service Model

- Every school age oncology and BMT patient was offered a full array of services
  - Initial consult for assessment thru completion of school career
- Services offered via consult for hematology population

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Assessment of Program
Impetus for Change

- Disparity in levels of support among groups within the division
- Increasing caseloads for school liaisons
- Development of Psychosocial Standards of Care for Children with Cancer
- Opportunity to collaborate with peers and test use of BSNI in new setting with implementation of tiered intervention model

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Psychosocial Standards of Care: *Defining essential psychosocial care for children with cancer and their families*

*Standards are meant to insure a **minimum level of psychosocial care** from the time of a child's diagnosis through survivorship, or end of life and bereavement care.*

Pediatric Blood & Cancer

https://www.mattiemiracle.com

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Psychosocial Standard #11

Academic Continuity and School Reentry Support as a Standard of Care in Pediatric Oncology

- school reentry support that focuses on **providing information to school personnel** about the patient's diagnosis, treatment, and implications for the school environment and provides **recommendations to support the child's school experience**
- pediatric oncology programs should **identify a team member with the requisite knowledge and skills who will coordinate** communication between the patient/family, school, and healthcare team

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Support for Standardization

- Development and publication of the psychosocial standards of care for pediatric oncology (Wiener, et al., 2015; Thompson, et al., 2015)
- No clear picture of consistent services across pediatric oncology programs (Scialla et al., 2018; Stuchell & Northam, 2018)
- Focus on lean healthcare principles—"the right service to the right patient at the right time" (Institute for Healthcare Improvement, 2005)
- Need for a cost-effective service model that can be implemented in variety of settings

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Brief School Needs Inventory

(BSNI; Elam, Murphy, Irwin, 2019)

Risk Assessment
To be completed by practitioner with the family and/or school

Source:

Do you or anyone else (i.e., child, child's school, child's care team, etc.) have concerns about:	Yes *Anticipated*	Yes *Current*	Yes *Prior Concern* (Unreso
Your child repeating a grade? (i.e., was "held back" or is at risk for being "held back")	+1	+2	+2
Your child's school attendance? (i.e., frequent late arrivals, early departure, partial day attendance, or full day absences that impact academic progress, and/or your child's access to	+3	+4	+3

Education Risk Calculation
To be completed by practitioner (School Intervention Specialist). Using input and considerations from the patient's care team (i.e., medical and/or psychosocial care providers) and other available sources (e.g., medical records, prior school history when known, etc.), how would you best describe...

The family's preparedness relative to school advocacy/need for support?	**Low (+0)** Family is empowered to self-advocate	**Moderate (+1)** Family needs some support with advocacy	**High (+2)** Family may be at risk without targeted interventions
The patient's current health status as it may impact school participation?	**Chronic (+0)** Off treatment or indefinite treatment but stable with routine follow-up	**Active (+1)** Stable but receiving treatment with frequent follow up	**Acute (+2)** *Recent trauma/serious medical incident/current complex care needs*
The patient's education risk?	**Low (+1)** Categorized as E1 per risk assessment above	**Moderate (+3)** Categorized as E2 per risk assessment above	**High (+5)** Categorized as E3 per risk assessment above
Composite Education Risk *(Calculated by adding the scores for advocacy, health status and education risk from above)*	**Low [1-2]**	**Moderate [3-5]**	**High [6-+]**

BSNI was validated by original authors, and we are using it as a standardized part of school needs assessment for all newly identified patients

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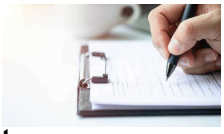
BSNI



- Modified for use at NCH
- Use only the risk assessment portion of the tool to determine service tier
- Flowsheet developed in EPIC
- BSNI completed for all patients served

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Service Model Change

- Decision made to change model of service for entire division to a tiered service model
- Change initiated for 2018-19 school year
- School needs assessments for every new patient/consult now includes the Brief School Needs Inventory (BSNI; Elam, Murphy, & Irwin, 2019)
- Level of intervention tailored to the intensity of needs identified
- Needed some upfront guidance to medical team/nursing staff to not offer full array of services

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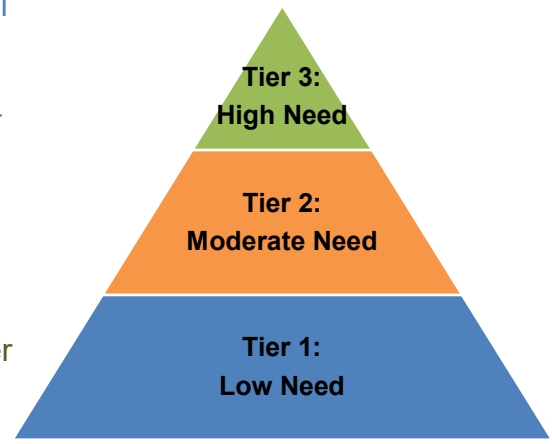
Tiered Intervention Model

All families receive tier 1 services and for low need families, there would not be a need for escalation of services.

As identified needs increase, the use of resources will also increase but the number of families is expected to be smaller.



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Low Needs/Risk

These services are provided to all patients and families, regardless of identified needs/risk.

- Initial consult with SL for assessment
- *Appropriate documentation for school*
- *Written materials for family and school, including resources and guidance related to academic needs*
- SL consultation available to medical team as needed
- Contact information provided to family for future questions or concerns

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Moderate Needs/Risk

- Obtain release for communication with school
- Standard email to school with patient information and resources
- Additional phone consultation or clinic follow-up with family as needed
- Phone consultation with school as needed
- Phone/video participation in school meeting if needed
- Assess needs for re-entry support (in collaboration with medical team)

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High Needs/Risk

- Initiate routine follow-up with family in clinic or during inpatient stays
- In-person representation at school meetings

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Additional Services

Other services are offered on an as-needed basis, based on professional opinion of the school liaison:

- Faculty in-service for school staff
- Classroom visits for peer education
- Participation in neuropsychology feedback
- Bereavement services for school staff or peers

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Change in Need Level

Reassessment of Need

- change in medical status
- newly identified psychosocial or school concerns
- family needs more (or less) support than initially thought at the time of diagnosis or initial assessment

Reassess with BSNI to reclassify service tier

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Research Study

"Evaluation of a tiered service model to support academic continuity and school reentry for children with cancer"

- **Primary goals were to assess feasibility and acceptability of a tiered intervention model guided by the BSNI**
- 108 patients were evaluated at enrollment and at one year follow-up
- Standard of care for entire division so no difference in care if enrolled or not

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Protocol

- School liaison assessment of school needs at the time of diagnosis or at entry into long-term survivorship care
- Assessment included BSNI to determine level of academic need/risk present for each patient
- Patients were offered enrollment if they had an oncology diagnosis, attended a US brick & mortar school, spoke English or Spanish, and were in K-12

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Enrollment and Data Collection

- Original plan was for enrollment and collection of data over two school years (SY 18-19 and SY 19-20)
- COVID-19 closed schools in March 2020 so second year of enrollment was cut short
- There was some interruption of school data collection but that was ultimately reconciled
- Some follow up interviews with families were delayed due to difficulties related to the pandemic

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Study Participants

- 69 newly diagnosed; 39 new to long term survivorship clinic; (N=108)
- 46% female; 54% male
- 80% white; 11% black; 9% multi or other
- 43% leukemia/lymphoma; 13% non-CNS embryonal; 23% sarcoma; 21% brain/CNS
- 13% K-2; 26% 3-5; 36% 6-8; 25% 9-12
- 31% low; 44% moderate; 25% high

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Research Questions

- Feasibility of a tiered service model—Could all patients assessed with BSNI and served accordingly?
- Acceptability—Would parent and provider satisfaction be comparable across tiers?
- Utilization of resources—How would model change impact available resources?

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Feasibility

- All patients receive an assessment with the completion of the BSNI at initial consultation
- In the study, follow up BSNI for some families was difficult, particularly the low need families and those from the long-term survivorship program
- After the research study ended, we now have a protocol that calls for automatic reassessment of high need families every 6 months, moderate need families once a year, and low need families only when new concerns or needs are identified by the medical team, school, or family

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BSNI scores at Enrollment and Reassessment

	Need Group	Newly Dx	Survivorship	Total
Enrollment BSNI				
	Low	2	31	33 (30.6%)
	Moderate	45	3	48 (44.4%)
	High	22	5	27 (25.0%)
Follow-up BSNI				
	Low	38	27	65 (60.2%)
	Moderate	17	5	22 (20.4%)
	High	8	1	9 (8.3%)
	Unavailable	6	6	12 (11.1%)

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Change in BSNI Category

Category Change	Newly diagnosed	Long term survivor	Total
Decreased risk	49 (71.0%	10 (25.6%)	59 (54.6%)
No Change	19 (27.5%)	25 (64.1%)	44 (40.8%)
Increased Risk	1 (1.5%)	4 (10.3%)	5 (4.6%)

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Acceptability

- Move from universal service model to tiered service model reduced services for some groups of patients
- Acceptability of model change was based on level of satisfaction for families and providers

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Satisfaction Survey Questions

Parent:

1. The school liaison was available to me when I needed help with school.
2. I have unmet needs related to my child's schooling.
3. Overall, I am satisfied with the services my family has received from the Nationwide Children's Hospital school liaison.

Provider:

1. The school liaison was available to me when I needed help with school issues.
2. Overall, I am satisfied with the services my patient has received from the school liaison.

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Satisfaction

BSNI Category	LOW	MOD	HIGH
Overall Parent Satisfaction	3.13[1] (*p*=.048)	3.69[1,2]	3.24[2] (*p*=.024)
Unmet needs	1.95	1.70	2.00
SL available as needed	3.30	3.62	3.43
Overall Provider Satisfaction	3.91*	3.64	3.45* (*p*=.041)
SL available to provider	3.82[1, 2]	3.63[1] (*p*=.012)	3.38[2] (*p*=.003)
Scale: 1=strongly disagree to 4=strongly agree			

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Resource Utilization

- To meet Psychosocial Standards of Care (for ALL oncology patients), need to find efficient way to use resources
- Did not want to limit availability to certain school districts by limiting travel radius
- We were looking for a reduction in the use of some resources (mileage) and differences in the use of resources between the service groups

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School Liaison Time

(average minutes/patient for year in study)

BSNI Category	LOW (n=33)	MOD (n=48)	HIGH (n=27)	Total (N=108)
All Participants (SD) Range	101.2* (65.4) 30-305	302.9 (170.3) 90-790	377.8 (186.5) 60-790¤	260.0 (185.9) 30-790¤

ANOVA and post-hoc tests:
Low is significantly different than both moderate and high ($p<.001$)
Not a significant difference between moderate and high
¤one outlier of 1390 was replaced with 790 for analysis

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Efficient Use of Resources

- Staff time—we have seen an increase in the number of patients per month that can be served; school meetings now average about 1.5 hours vs. the old average of 3.0 hours with travel included
- Staff travel—mileage has decreased significantly, saving the program money

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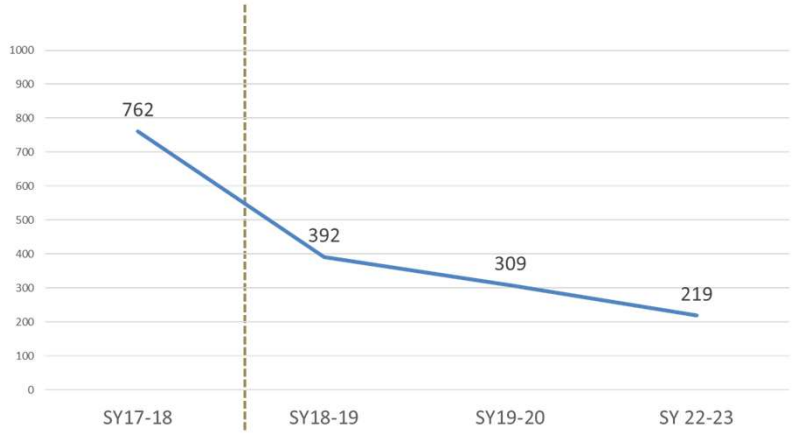
Average SL Miles/month



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Lessons and Observations

- Good practice to complete BSNI at least once per year (or at school reentry) for moderate and high need patients as they return for follow up care
- Low needs assessment should not require further follow up unless indicated by medical team or family request
- There is support for tiered intervention—not every family needs the full array of services

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Supporting Standards of Care

- Standard #11: Academic Continuity and School Reentry Support
- *Universal assessment* identifies needs for each patient
- *Tiered intervention* model allows us to support patients at a level of care that matches the needs

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Conclusions

- Tiered intervention service model is doable and reasonable
- Can be structured to fit needs of particular care center—large or small
- Universal assessment meets the guideline of the Psychosocial Standards of Care

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Ongoing evaluation

- Now working on ways to evaluate fidelity
- Interrater agreement on BSNI
- Evaluation of time spent with each family to monitor relationship between risk/need and resources used

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Support for the Study

- Financial support for the research study was provided by Mattie Miracle Foundation

Mattie Miracle
CANCER FOUNDATION

- Ohio State University Center for Clinical and Translational Science Voucher Award for use of biobehavioral core services

The Ohio State University
CENTER FOR CLINICAL AND TRANSLATIONAL SCIENCE

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