

# Preliminary Validation of A New Family Psychosocial Risk Measure in the Neonatal Intensive Care Unit (NICU):

## The PAT-NICU/CICU

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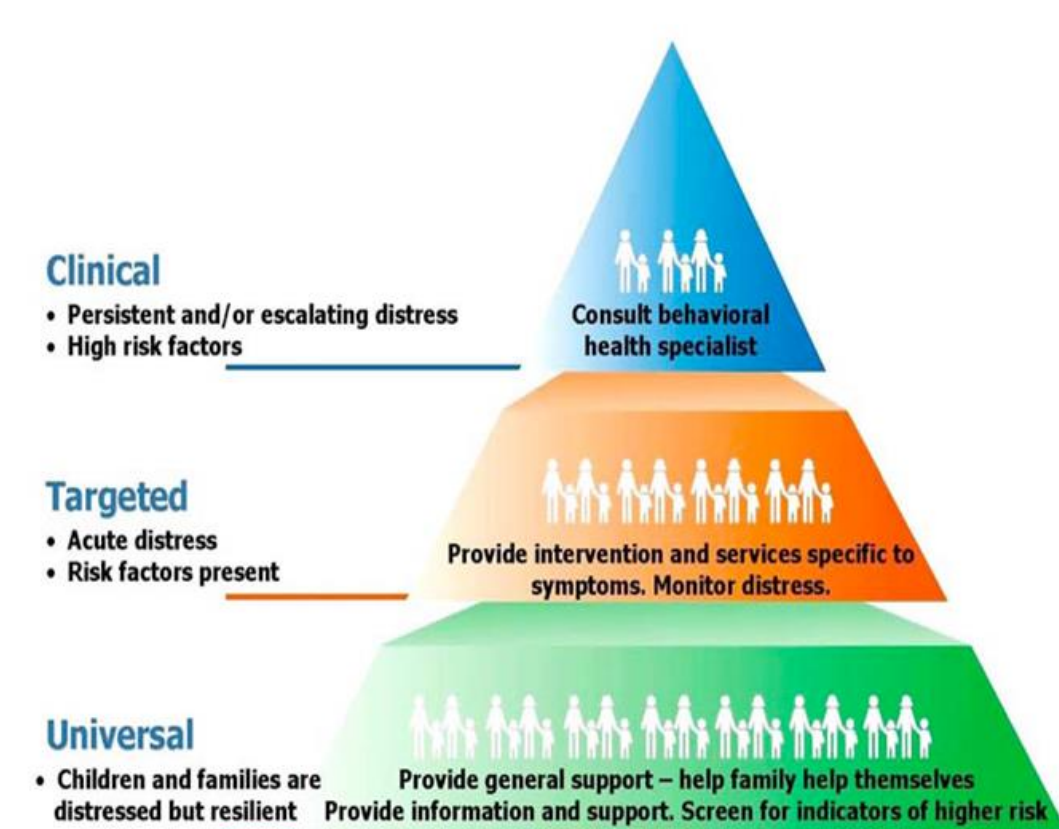
### Objectives

- To validate the newly developed Psychosocial Assessment Tool-NICU/CICU, a comprehensive screening measure for family psychosocial risk in the NICU.
- Compare parental reports and assess acceptability

### Background

- Families whose infants are admitted to the Neonatal Intensive Care Unit (NICU) experience elevated distress and may have pre-existing risk factors for maladjustment.
- Understanding families' needs may help address inequities and triage support resources.
- Risk screening for mood concerns in the NICU is recommended practice but is not a holistic approach.
- Addressing differences in social determinants of health (SDOH) makes progress towards health equity.

#### Pediatric Psychosocial Preventative Health Model



Link to our team's paper published in Journal of Pediatric Psychology:



### Methods

#### Participants and Procedures

- Hospital IRB approved
- Parents were recruited at bedside 5-15 days after admittance to the NICU
- Of 225 families approached, 177 participated (79%)
- 171 mothers and 85 fathers completed surveys at Time 1.
- Eligible parents were  $\geq 18$  years old and English-speaking
- Parents were not recruited if infant death was imminent

#### Measures

##### Demographic Data:

- Parents provided family demographic information. Diagnosis, symptom and treatment course data were extracted from electronic medical records.

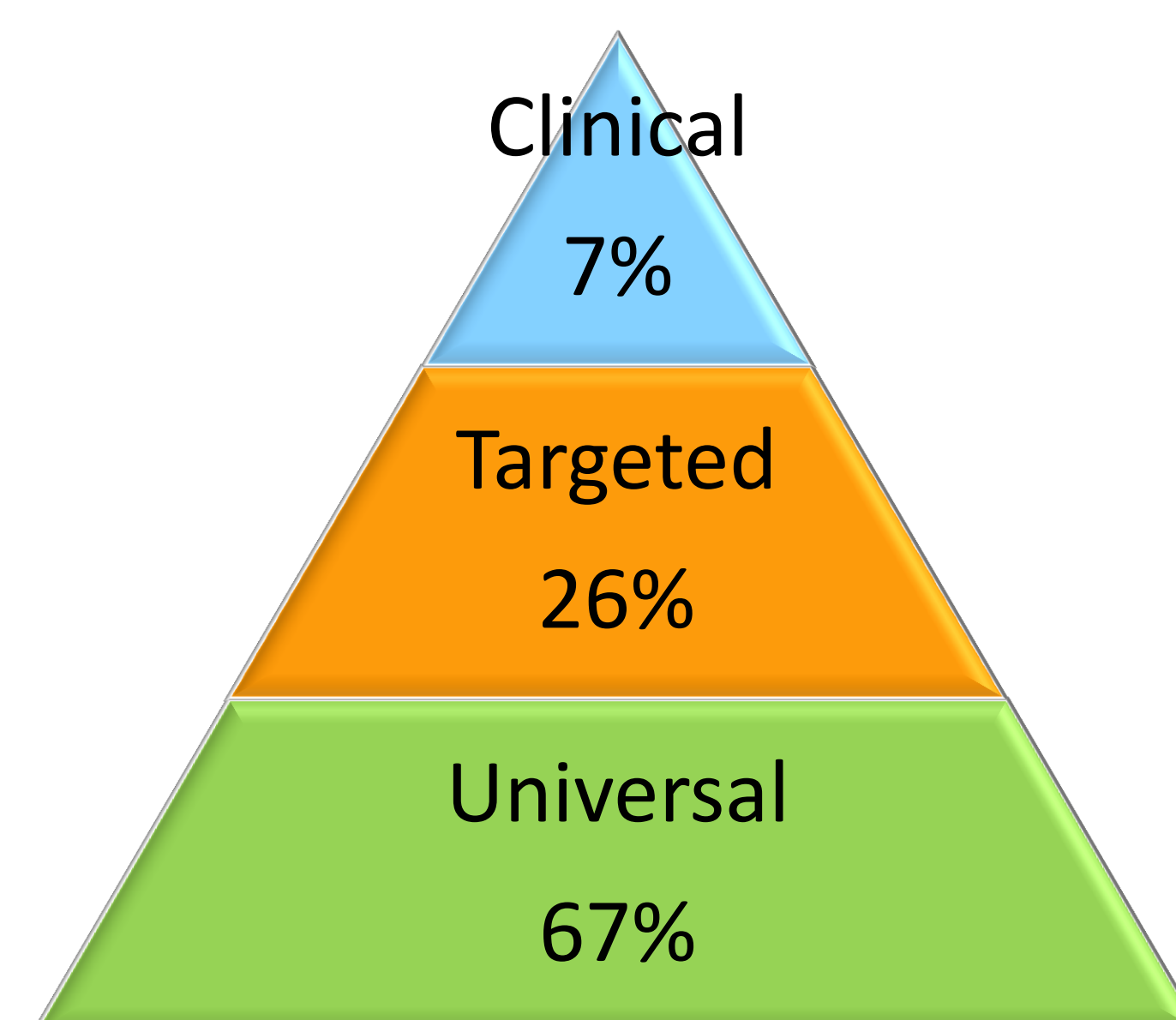
##### Psychosocial Assessment Tool – NICU/CICU:

- Original PAT developed for pediatric oncology population
- Adapted for NICU population with additional items
- Parents reported on stressors from across 6 domains from original PAT: Family Structure/Resources, Caregiver Support, Caregiver Problems, Caregiver Stress Reactions, Family Beliefs, Sibling Problems
- 2 NICU specific domains (not scored- clinical use only)
  - Pregnancy/Loss History, NICU adjustment
- Items are dichotomized such that 0 indicates non-risk and 1 indicates risk.
- Total subscale scores  $\leq 1.00$  indicate a universal level of risk, scores between 1.00 and 1.99 indicate a targeted level of risk, and scores  $\geq 2.00$  indicate a clinical level of risk.

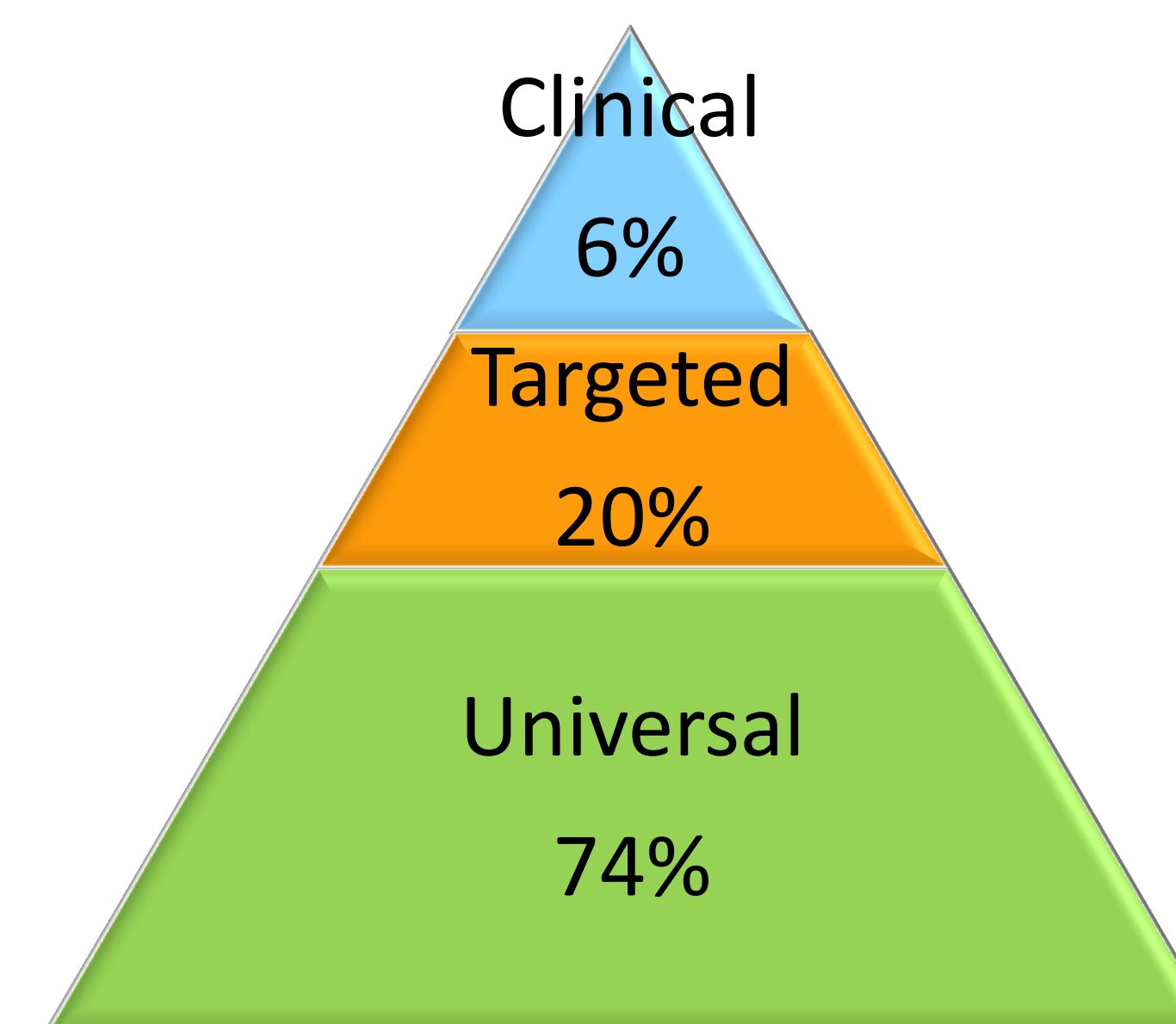
### Results

The PAT-NICU/CICU is a new comprehensive family screening tool that assesses multiple domains, including mood and social determinants of health

Mothers (n = 171)



Fathers (n = 85)



Scale/Total Score	Number of Items	Mean	SD	Range	KR20
Family Structure/Resources	8	.22	.16	0 - .75	.31
Caregiver Support	4	.04	.16	0 - 1.00	.79
Caregiver Problems	9	.16	.18	0 - .78	.72
Stress Reactions	5	.11	.20	0 - 1.00	.66
Family Beliefs	11	.12	.12	0 - .64	.49
Sibling Problems - Under 2	8	.06	.11	0 - .50	.48
Siblings Problems - 2 and Over	16	.12	.15	0 - .56	.76
Sibling Problems - All	20	.12	.14	0 - .56	.75
Total Score	57	.89	.67	0 - 3.67	.74

Scale/Total Score	Number of Items	Mean	SD	Range	KR20
Family Structure/Resources	8	.18	.16	0 - .63	.46
Caregiver Support	4	.02	.10	0 - 0.75	.67
Caregiver Problems	9	.15	.15	0 - .67	.57
Stress Reactions	5	.10	.20	0 - 0.8	.73
Family Beliefs	11	.10	.10	0 - .45	.16
Sibling Problems - Under 2	8	.06	.09	0 - .25	.28
Siblings Problems - 2 and Over	16	.10	.13	0 - .56	.74
Sibling Problems - All	20	.10	.13	0 - .56	.67
Total Score	57	.75	.58	0 - 2.57	.61

### Advantages of PAT-NICU/CICU

- Broad-based
- 10-15 minutes to complete
- Includes SDOH items
- Pen/paper or electronic (RedCap)
- Automatic scoring (electronic or web)
- Most families view positively
- Specific items related to previous birth history, pregnancy history, history of loss
- Reliable over time
- Domains include family structure/resources, caregiver stress, social support, caregiver problems, sibling issues, and family beliefs
- Can compare with other medical populations

### Results

- Participants were generally in their mid-20s (M = 26.94 years, SD = 5.87); most were partnered (69%), White (85%), and had at least a high school education (89%). Similar to our larger NICU population.
- Familial psychosocial risk was similarly classified for parents, with 33% of mothers and 26% of fathers in Targeted or Clinical category
- Mothers' and fathers' total scores were highly correlated ( $r(79) = 0.44, p < 0.001$ )
- Scores largely stable across time with acceptable test-retest reliability for mothers ( $r(119) = 0.71, p < .001$ ) and fathers ( $r(53) = 0.39, p < 0.01$ )
- Approximately half of sample reported at least some financial difficulties (i.e., rent, car, utilities), including 3% who reported "hard to meet basic needs" and 1% with "no stable housing"
- Higher PAT-NICU/CICU scores associated with elevated scores on concurrent measures of validity (e.g., EPDS, FAD, BSI, PCL-6, PPQ-2).
- Of note, 40% of mothers and 34% of fathers scored above 10 on the Edinburgh Perinatal Depression Scale (EPDS), with 3% of parents reporting at least some thought of self-harm in past week.
- 94% of mothers reported the PAT: NICU/CICU was understandable
- Most mothers (77%) reported the PAT-NICU/CICU accurately depicted the family's situation and captured all areas of family stress.
- 68% of mothers from marginalized backgrounds versus 86% of White mothers reported they would recommend this instrument [ $\chi^2(171) = 7.71, p < 0.01$ ]

### Discussion

- PAT-NICU/CICU is a broad-based assessment tool which allows for a holistic approach to risk screening and earlier identification.
- PAT-NICU/CICU facilitates efficient use of NICU resources.
- Processes need to be in place to address identified needs and provide necessary follow-up care.
- More research is needed particularly regarding its use with historically marginalized populations.
- For more information please contact: Amy Baughcum, PhD at [amy.baughcum@nationwidechildrens.org](mailto:amy.baughcum@nationwidechildrens.org)
- Inquiries about using the PAT-NICU/CICU should be directed here (scan QR code):



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