The Neurosequential Model of Therapeutics ©

Frequently Asked Questions

(NMT Implementation and Site Certification)

1. How much information across the domains do you need about a child to be able to produce a reasonably thorough report? What is the minimum amount of information needed?

The NMT Metrics are comprised of four sections; Part A: a history of developmental adversity (trauma and adversity related experiences): Part B: a history of developmental relational health (resiliency related factors): Part C: current brain-mediated functioning (motor, social, emotional and cognitive domains) and Part D: current relational health. To complete each section requires no more information than any typical quality clinical evaluation. In most cases the clinical setting is gathering the majority of information needed to complete a report during the course of their typical/usual clinical process. The NMT's capacity building process will help clinical teams better focus and select important history and current functioning assessment elements that will lead to, we believe, a more complete developmental- and "trauma-informed" understanding of the client and his or her family and community – so over time, many sites modify their existing assessment process to include more relevant and developmentally targeted history, symptoms and physical signs (e.g., more detailed history of the timing and patterns of adversity, community and cultural factors and heart rate (HR) rates or variability).

The process of scoring the NMT metrics can be informed by information from multiple sources including previous health (or mental health) records, school records, parents, foster parents, other caregivers, clinicians and any other person who has information about or contact with the child. That being said, the CTA will often provide a brief consultation to a clinical team (and family) and be able to complete the web-based NMT Clinical Practice tools (NMT Metrics) during a 45-minute consultation. If a clinician "knows" his client and has a good understanding of the history, it takes approximately 25 minutes to complete the Metric and make initial recommendations for treatment planning.

The NMT Metrics have clear "scoring rules" for when there is minimal or no available data for some aspects of history or current presentation; in these cases, a clinically-useful report can still be generated with the known aspects of history and current functioning.

2. Are clinical screening and/or assessments needed for a complete NMT report? If so, which ones?

Ideally complementary metrics and documentation or knowledge of the child's history and current functioning are available. Standard and common measures such as the CBCL (Child Behavior Check List), TSCC (Trauma Symptom Checklist for Children) are often part of the usual assessment and these can inform some of the items in the NMT Metrics (many of the items in the CBCL and TSCC have high cross-validity with corresponding items in the Part C CNS Functional Map). In addition, previous

developmental, social, medical and mental health treatment history, and other psychological testing can be useful but is not necessary.

There are no required screening or assessment elements (aside from the items in the NMT metrics); the key components of the NMT assessment will involve gathering the kind of information common to the normal course of any good clinical evaluation.

3. How much time do you need to complete a thorough assessment through NMT? Not necessarily looking at the amount of time it takes to input the information, but rather the time it takes to gather the information from parents, kids, schools, doctors, clinicians, etc.

Again this will vary depending upon the nature of the clinical setting. A more traditional outpatient clinic may take several hours over a few weeks to collect and process information for their traditional assessment. If that is the process of the clinical setting, the clinician can simply proceed as usual and at the end of that process take 15 minutes, go online, log into the web-based NMT Clinical Practice Tools (NMT Metrics) section and enter the collected information to produce the NMT report. In other clinical settings where there are fewer resources available and potentially limited access to previous records, the clinician can still complete the report but may be required to use his or her clinical judgment to estimate scores (again, the scoring "rules" in this area are learned as part of the NMT Certification process).

Our general rule of thumb is that in any clinical setting that traditionally works with at risk families and children the NMT assessment adds minimal time to their existing process but using the NMT approach will likely change some of the questions and areas of focus during that assessment process.

4. In your experience, how feasible has it been for people to be able to collect the necessary data?

Thousands of clinicians and hundreds of systems across dozens of countries have been using the NMT Metrics (see below). The general consensus is that it is very feasible to gather the basic information required to complete the NMT metrics. Again, the elements of assessment required for the NMT Metric are at the core of their clinical work. We believe that a strength of this process is that it allows a clinician to focus on essential elements of history and current functioning required for adequate and the effective intervention. Further we believe that if that if these core features of the individual's history and current functioning isn't understood, the treatment planning and interventions regarding placement decisions, the selection and sequencing of therapeutic services and educational supports will have a higher risk of failure.

5. Is there a "type" of child that this model is most useful for? The most traumatized? Children with minimal trauma?

The NMT is used with individuals of all ages – from infants to the elderly. In addition, the NMT has been used and found to be clinically useful in a wide range of conditions, including autism, FASD

and other non-trauma related developmental disabilities. Due to the neurodevelopmental perspective and 'organizing' features of the NMT assessment we find that the clinical groups working with the most complex and challenging individuals (e.g., children, youth and adults with trauma histories, or in the Child Welfare and Juvenile Justice systems) find this approach very helpful.

6. Are there any children for whom this assessment model would not be good for? Any exclusions?

There are no exclusions in using this model. The findings may not be particularly helpful if a child has minimal social, emotional, or cognitive issues - in other words if the child is well-organized and has had a developmental experience generally free of risk. In these cases, the NMT Metrics will simply reinforce what you already know. But as for children with any variety of significant medical, social, behavioral and emotional problems we find this to be very helpful organizing framework.

7. Do you have outcome data you can share with us?

There are multiple sets of outcome data from various programs and sites that have introduced the NMT. Some of this has been presented in various peer-reviewed venues (e.g., professional meetings, dissertations, journal publications, edited conference proceedings) but much of it remains as part of the institutions internal QI/QA process and outcomes. As the more individuals and sites become certified, the number of independent evaluations is increasing.

The CTA has worked with multiple sites to collect and report some of these outcomes. A multi-site, multi-year review of restraint/critical incident rates (10 sites in 8 states and 3 countries) over a multi-year process (see Appendix) shows a significant and persisting improvement (60%) following the introduction and implementation of the NMT.

While a relatively "young" approach, the general findings – both subjective and objective – are that the NMT is a useful, practical and effective way to help create and implement 'trauma-informed' clinical practice.

8. Resources for children's mental health services are limited to begin with. We are concerned about locating providers in our highest need communities that offer therapeutic massage, swimming, drumming, and some of the other sensory integration interventions recommended for children. How have other jurisdictions addressed these needs?

The NMT is really not a therapy; it is a therapeutic approach. Yet a high percentage of the children and youth with histories of developmental adversity have regulatory and executive functioning problems, and when the NMT assessment is completed for these clients, therapeutic recommendations frequently include the use of some patterned, repetitive somatosensory activity. Optimally this is delivered in context of a supportive relationship with small "doses" (e.g., 5 to 15 minutes) multiple times a day. This can be a challenge, yet it is often much easier to provide than most people realize. First, the supportive individual does not need to be a professional – indeed, carers, teachers, coaches, front-line mental health workers, foster parents and parents can be play this role (and ideally a combination of

these will all work together over the client's day with some shared understanding of the needs of the child or youth). Second, the nature of these somatosensory experiences can vary from individual to individual depending upon personal interest, preference and availability. Large motor primary activities such as walking, running, swinging, rocking, riding a bike, swimming, dancing, yoga, various exercises; auditory primary making or listening to music – or small motor re drawing, coloring, breathing exercises – all can be provided in any setting with minimal expense or access to professional services. Psychoeducation for carers, the school, the clinical teams and for the youth and children themselves is an important part of this overall approach – and all of this minimizes the "professionalization" of healing.

9. Are there any large jurisdictions that have implemented or are implementing this model ? Can we speak with some of the larger-scale users to understand the strengths and challenges in implementing the model?

The NMT geomap (https://www.google.com/maps/d/viewer?mid=zoC7z7POutw0.ko3-FintQ8RE) on the CTA website splash page (www.ChildTrauma.org) provides locations and contact information for current NMT Certified sites and individuals across the world. We have several large government systems (County-based, State-based and Country-based) and child welfare organizations implementing the NMT on a large scale; this includes the state of Illinois (via the Board of Education and DCFS), the state of New Mexico (via Health and Human Services), Norway (via their Regional Trauma Centers). We would recommend talking with the people in Franklin County Ohio (Columbus) where there has been a multi-year, well-planned capacity-building process and implementation of NMT with key clinical contractors, many school districts and within the Child Welfare system.

10. How do other jurisdictions manage quality assurance?

The CTA has a bi-annual Fidelity exercise that allows us to track inter-rater reliability of all users. During the Certification process, the NMT has clear objectives and tracking processes to allow the Site Coordinator to follow the progress of each individual in the process. The Maintenance Phase requires a Sustainability Plan that involves adherence to a set of update and refresher learning experiences.

11. Can you tell us more about the psychometric properties of the instruments that are used in NMT?

The NMT Metrics have defined descriptors and anchors in all of the four main "Parts". The history items have high face-validity as do the majority of the items in Part C (the CNS functional assessment). While evaluation of the psychometric properties is ongoing, the cross-validity of items in Part C to corresponding items in other metrics (e.g., the "affect" item in Part C and affect related items in CDI and CBCL) is high.

The NMT Metrics have an ongoing Fidelity process where all users review and score the same client's information to create an NMT Metric Report. This allows the CTA to "rate" the reliability of users; only cases (and data) from high or acceptable fidelity users is included in outcome and research.

With this said, the collective inter-rater reliability of the NMT Metric is high, with over 85% of certified users consistently scoring "high" or "high acceptable" on the Fidelity exercises.

12. Have other users found that the assessment actually follows the child as they move through the child welfare continuum? We have contracted providers for foster care, preventive services, residential programs, etc, and we are wondering how the assessment can best be shared while observing confidentiality guidelines.

The NMT Metric report (and follow-up reports) have been used to track outcomes and to cross "system" boundaries. The web-based management of the data allows easy "tracking" and "transfer" of key information across system. The actual report does not include any specific information about the actual maltreatment – and adverse experiences are "transformed" to numerical and graphical representations so that a foster carer, for example, might see that a youth had lots of developmental challenges – but will gain no specific details about what, who, where that risk occurred. Further, elements of the report can be independently shared (e.g., the "brain map") for psychoeducational purposes without giving any detailed clinical information.

13. What type of capacity do our computers need to have in order to run the program? Is there a special type of technology that we need to have?

Access to the web is the only specific technology need to create a report. The reports are Adobe pdfs – so to print the report, an updated version of Adobe is preferable. In order to view the web-based teaching sessions and clinical case discussions, access to high speed internet is required.

14. Is it possible to upload information from our data system(s) into the NMT program?

While the NMT web-based tools are designed to facilitate cross-communication with other datasets, we do not give access to the CTA/NMT database. We do, however, give sites/organizations complete access to all of the data from the NMT assessments for their clients. We can provide this data in a variety of formats to allow sites to "merge" into the corresponding case/client dataset.

The NMT Metric seeks to be as de-identified as possible. When completing the online NMT report we do not want full names or birth dates; age, first name and client ID number are the extent of specific identifiers.

15. Is a demonstration of the system possible?

Yes. We can provide access to the NMT Clinical Practices tools and the archived NMT Case-based teaching sessions for demonstration purposes. Simply contact us to discuss the details on how to do this.

16. Is it possible to have a pilot project to test fit and feasibility?

Yes. We recommend that settings that choose to learn to use this approach actually have a clear understanding of what this model is – and what it is not. Ultimately it is internal "champions" who see the value of the concepts and the NMT metrics/tools who will ensure that the challenging process of culture change and introduction of innovation can be successful.

17. How are other sites providing the findings and recommendations from the assessment in a way that the caregivers can understand and utilize? There is some concern about it being too sophisticated for caregivers.

The Neurosequential Model of Therapeutics has a very significant "capacity building" component. The clinicians are exposed to a range of concepts and emerging findings in multiple areas such as developmental psychology, pre-clinical neuroscience, "traumatology", forensics, sociology and many others. A primary purpose of this is to enable the clinician to feel comfortable and ultimately master the key concepts related to development, attachment, neurosociology and therapeutics that will be important to communicate to the client, caregivers, educators and others in the life of the child. Many adjunctive materials (e.g., video clips, images, graphs, slides, articles, supplemental readings and curricular packages) have been developed to support these efforts. The Neurosequential Model has modified content for educational settings (the Neurosequential Model in Education) and for carers (the Neurosequential Model for Caregiving).

The visual and graphic nature of the NMT Metric report actually serve as very useful and concrete psychoeducational tools in this process. Feedback from families and educators is very positive.

18. How much historical information do you need on the child and how are other sites handling the issue that adoptive families may not have a lot of historical information on the child.

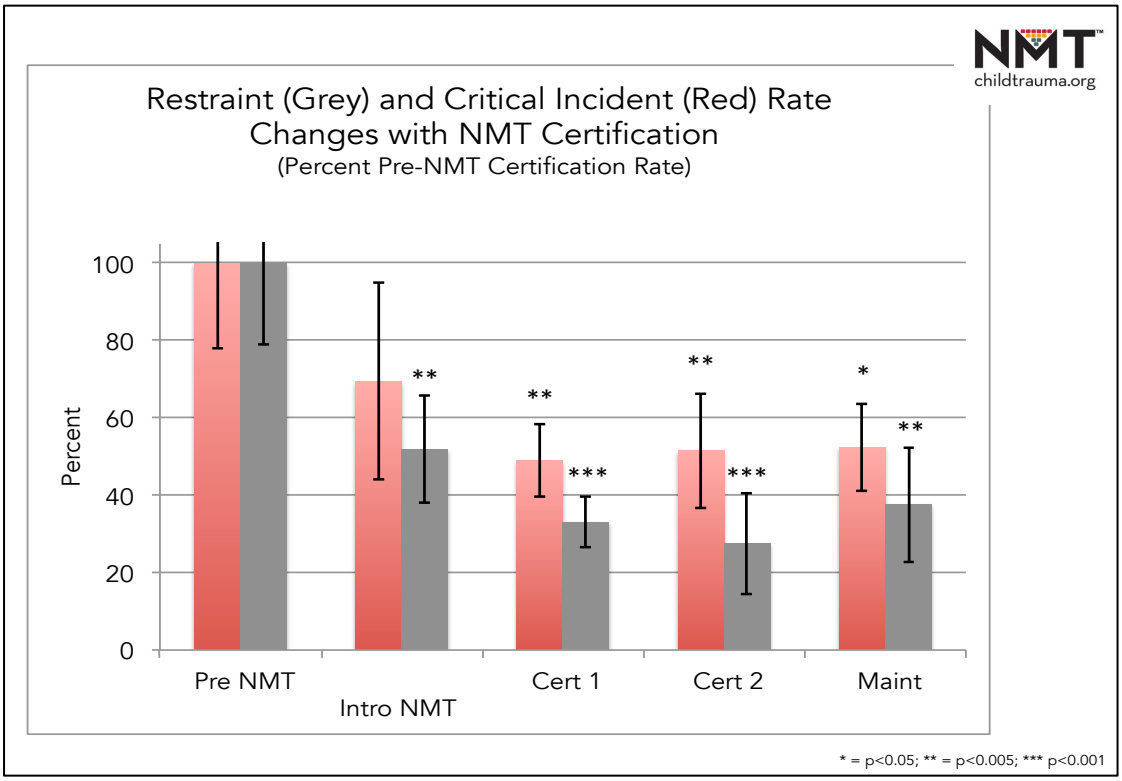
It is common for children who have been adopted or who are in the child welfare system to have incomplete or even complete gaps in their developmental history. The NMT Metrics have clear scoring "rules" that help the clinician make an estimated re-construction of developmental risk and resilience-related factors during these time periods. Even in the absence of history, then, the clinical team can use the NMT Metrics to get an initial assessment report to facilitate the creation of a developmentally sensitive and trauma-informed treatment plan.

23. Could the training and certification be done in a more condensed manner— if so what would this look like

In general the current, self-paced, web-based Phase I process takes approximately one year. The CTA is starting a "Boot Camp" model to provide an live, in-person on-boarding process (2 or 3 days) that will accelerate the process. We anticipate that Boot Camp participants could easily finish a Phase of certification (Phase I, Train-the-Trainer or Mentor) in approximately 9 months following a Boot

Camp. In either case, however, clinicians are able to use the NMT Metrics for clinical work within 3 months of starting the certification process.

APPENDIX 1. Selected Outcomes



NMT childtrauma.org

Economic Benefits with Introduction of NMT

Site	Program	Pre NMT RR (Months)	Pre NMT Monthly COST	Intro NMT % Baseline (Months)	Period Savings	Cert 1 % Baseline (Months)	Period Savings	Cert 2 % Baseline (Months)	Period Savings	Maint % Baseline (Months)	Period Savings	TOTAL SAVINGS
1	NFI	100 (48)	380.0	11.5 (24)	8025.6	0.0 (24)	9120.0	0.0 (24)	9120.0	0.0 (36)	13680.0	39945.6
2	Village Network	100 (12)	5810.0	71.7 (5)	5229.0	29.4 *** (15)	61005.0	1.0 *** (11)	63270.9	15.2 ** (7)	34569.5	164074.4
3	San Mateo	100 (29)	1400.0	25.2 (8)	8384.0	59.3 (13)	7410.0	10.7 (18)	22503.6	4.04 (16)	21494.4	59792.0
4	Cal Farley	100 (25)	3896.0			44.6 *** (11)	24427.9	51.4 *** (12)	23376.0	49.1 *** (29)	58751.7	106555.6
5	StA	100 (32)	5096.0	118.7 (19)	-18396.6	48.5 *** (13)	33124.0	79.6 (20)	122304.0	103.8 (24)	-6115.2	130916.2
6	Hull	100 (11)	642.0	58.9 (11)	2824.8	33.8 (9)	3755.7	11.4 * (12)	6856.6	45.9 (18)	75576.2	89013.3
7	AYN	100 (30)	16662.0	62.9 *** (17)	104804.0	24.8 *** (19)	237433.5	38.4 *** (18)	185947.9	45.7 *** (36)	238266.6	766452.0
8	Teambuilders	100 (12)	1663.0			23.5 ** (5)	7234.1					7234.1
9	Warwick	100 (4)	45383.0	44.6*** (6)	152486.9							152486.9
10	Kibble*	100 (12)	2333.0	22.5*** (12)	21556.9							21556.9
TOTAL	% Pre NMT	100.0	8326.5	51.9 **	284914.6	33.0 ***	383510.2	27.53 ***	433379.0	37.58**	436223.2	1538027.0

Ten sites
Three countries (eight states)
Avg duration of site review = 64 months (range 10-132 months)
2744 clients served in the 10 programs during the duration of the review period

Conservative economic benefit from just the reduction in restraints
$1,538,037
4,269 restraints (avoided)
51,228 "person-hours" required for "restraint" re-directed