Institution: University of East Anglia		
Unit of Assessment: 4 - Psychology, Psychiatry and Neuroscience		
Title of case study: Improving the timing and effectiveness of psychological treatment of post-traumatic stress disorder in youth		
Period when the underpinning research was undertaken: 2014 - 2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	**Role(s) (e.g. job title):**	**Period(s) employed by submitting HEI:**
Richard Meiser-Stedman	Professor of Clinical Psychology	2014 – to present
Period when the claimed impact occurred: 2016 - 2020		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact

Research undertaken by Professor Meiser-Stedman at UEA has led to major advances in the treatment, assessment, and management of post-traumatic stress disorder (PTSD) in children and adolescents. The underpinning research demonstrated the efficacy and cost-effectiveness of an age-appropriate trauma-focused cognitive therapy for PTSD, leading to changes in UK and international treatment guidelines. Assessment tools, including the Children's Post-Traumatic Cognitions Inventory, have been developed and refined to direct clinical practice. Meiser-Stedman has supported clinical teams to optimise interventions and improve the training of clinicians working with children following traumatic events. In particular, the research has supported the community response to major national disasters including the Manchester Arena terror attack and the Grenfell Tower fire.

2. Underpinning research

Post-traumatic stress disorder (PTSD) is a common problem in children and adolescents following traumatic experiences. Approximately 470,000 children in the UK have the condition at any one time, with lifetime prevalence at 7.8% (Lewis et al., 2019, *Lancet Psychiatry;* Royal College of Psychiatrists Report CR182, 2013). PTSD can have a serious impact on mental and physical health, disrupting education and development, and can persist for years or decades.

UEA research on PTSD in children aged 8-17 years has addressed the clinical burden associated with this emotional disorder by (a) introducing an efficacious and cost-effective therapy for PTSD, (b) developing a tool for measuring trauma-related cognitive appraisals, and (c) tracking the natural course of children's reactions to trauma so as to optimise the timing of treatment implementation.

Efficacy and cost-effectiveness evaluation of age-appropriate therapy for PTSD

Cognitive Therapy for PTSD (CT-PTSD) is a treatment initially developed for use with adults, that was refined for use with child and adolescent populations. CT-PTSD offers considerable promise as an intervention for PTSD in youth. Meiser-Stedman's research found that using CT-PTSD to treat PTSD 2-6 months post-trauma was effective at promoting recovery. This is important because after the initial phase of natural recovery (i.e., the first few months post-trauma), it becomes less likely that a young person will recover without support (Output 1).

The randomised controlled trial (RCT) reported in Output 1 benefitted from pre-registration, the utilisation of blind assessors for post-treatment assessment, the inclusion of child and parent-report outcomes, and a comprehensive process-outcome component. This latter element lent support to the cognitive account of PTSD, showing that treatment responsiveness was related to changes in appraisals, memory quality and maladaptive coping. This finding is critical for dissemination of the treatment because it highlights the mechanisms on which therapists should focus. Moreover, the trial included a health economic evaluation that demonstrated the cost-effectiveness of using CT-PTSD to treat early PTSD reactions in youth (Output 2).

Tools for assessing PTSD symptoms and mechanisms in youth

Following initial research, the UEA group developed and evaluated measures that support the assessment and treatment of PTSD. These included tools to measure mechanisms underpinning the persistence of PTSD in youth. A central tool from this research is the Children's Post-Traumatic Cognitions Inventory (CPTCI) which measures trauma-related misappraisals. Meiser-Stedman's research has demonstrated the importance of this tool for indexing the amount of cognitive change arising from psychological therapy (Output 1) and the role of misappraisals in the early emergence of PTSD (Outputs 3 & 4). An abbreviated version of this tool has been developed to support use in clinical practice (Output 5), helping clinicians to more accurately identify, target and track maladaptive appraisals. This tool has been validated for use in Germany, the Netherlands, and Korea (de Haan *et al.*, 2016, *Child Psychiatry & Human Development*; Diehle *et al.*, 2015, *European Journal of Psychotraumatology*; Lee *et al.*, 2018, *Child and Adolescent Psychiatry and Mental Health*).

Supporting communities to manage young people's reactions to traumatic events

Meiser-Stedman's group at UEA has undertaken several prospective longitudinal studies of trauma-exposed youth (e.g., Output 3), documenting the degree of natural recovery that occurs in children and young people exposed to trauma within the first two months. This work was summarised in a recent meta-analysis (Output 6), providing clear guidance on what to expect in the aftermath of trauma, specifically, that some early post-traumatic stress symptoms are normal and do not necessarily indicate an abnormal or chronic reaction. This has informed clinicians and communities on when to intervene post-trauma.

3. References to the research

(**Outputs**; UEA authors highlighted in **bold**)

1. **Meiser-Stedman, R..** et al. (2017). Cognitive therapy as an early treatment for post-traumatic stress disorder in children and adolescents: a randomized controlled trial addressing preliminary efficacy and mechanisms of action. *Journal of Child Psychology and Psychiatry, 58*, 623-633 DOI:10.1111/jcpp.12673
   RCT of trauma-focused cognitive-behavioural therapy focusing on single-event PTSD treatment in youth.
2. Shearer, J., Papanikolaou, N., **Meiser-Stedman**, R., et al. (2018). Cost-effectiveness of cognitive therapy as an early intervention for post-traumatic stress disorder in children and adolescents: a trial based evaluation and model. *Journal of Child Psychology & Psychiatry, 59*, 773-780 DOI:10.1111/jcpp.12851
   The first cost-effectiveness evaluation of psychological therapy for PTSD in youth.
3. **Meiser-Stedman, R.,** et al, (2017). Acute stress disorder and the transition to posttraumatic stress disorder in children and adolescents: prevalence, course, prognosis, diagnostic suitability and risk markers. *Depression & Anxiety*, 34, 348–355 DOI:10.1002/da.22602
   The first prospective longitudinal study to consider the transition from DSM-5 acute stress disorder to PTSD in youth.
4. **Meiser-Stedman, R.,** et al. (2019). A core role for cognitive processes in the acute onset and maintenance of post-traumatic stress in children and adolescents. *Journal of Child Psychology & Psychiatry,* 60, 875-884. DOI:10.1111/jcpp.13054
   Demonstrates a key role for cognitive factors, particularly appraisal, in driving the maintenance of PTSD in youth.
5. McKinnon, A., Smith, P., Bryant, R.… & **Meiser-Stedman, R.** (2016). An update on the clinical utility of the Children's Post-traumatic Cognitions Inventory. *Journal of Traumatic Stress*, 29, 253–258. DOI:10.1002/jts.22096
   Demonstrates that an abbreviated version of the Children's Posttraumatic Cognitions Inventory had excellent psychometric properties, making it appropriate for clinical use.
6. Hiller, R. M., **Meiser-Stedman**, R., et al. (2016). Research Review: Changes in the prevalence and symptom severity of child PTSD in the year following trauma: a meta-analytic study. *Journal of Child Psychology & Psychiatry*, 57, 848-898.

DOI:10.1111/jcpp.12566
The first meta-analysis to consider how youth PTSD prevalence changes in the first 12 months post-trauma.

4. Details of the impact

(1) Efficacy and cost-effectiveness evaluation of age-appropriate therapy for PTSD has impacted clinical practice guidelines

Meiser-Stedman's work has been instrumental in demonstrating the health and economic benefits of offering trauma-focused cognitive behavioural therapies to children and young people with PTSD in NHS services. The evidence of the efficacy and cost-effectiveness of these cognitive behavioural approaches have led to their adoption in key internationally-recognised clinical guidelines.

Both the latest NICE guideline for PTSD (**Source 1**) and the International Society for Traumatic Stress Studies (ISTSS) guidelines for PTSD treatment **(Source 2**) recommend trauma-focused cognitive behavioural therapies as a first-line treatment for PTSD in youth. The NICE guideline cites Output 1 in its evidence review as one of only six single-incident trauma trials (**Source 1**, Evidence Review B, Figure 6, p. 250) and the only such trial to show improvement in terms of reliable change (Figure 15, p. 253) and global improvement (Figure 33, p. 261). The NICE guideline concludes: "***The evidence showed that trauma-focused CBT is effective in improving PTSD symptoms and other important outcomes, and that improvements last for at least a year. Benefits were seen for different specific trauma-focused interventions and different types of trauma. Trauma-focused CBT is more effective, as well as more cost effective, when it is provided individually than in a group so the committee agreed it should be delivered individually.***" (**Source 1,** p. 34)

The ISTSS is the foremost international scientific association for the study of post-traumatic stress and the dissemination of best practice. Meiser-Stedman's trial (Output 1) is one of only six trials cited in these guidelines that address single-incident trauma. Based on this and other trials, the ISTSS gave a "***strong***" recommendation for trauma-focused cognitive behavioural therapies (**Source 2,** p. 31, p. 41); a strong recommendation was the most powerful endorsement of an intervention class that ISTSS could give.

In addition to recommending trauma-focused cognitive behavioural therapies, the latest NICE guideline for PTSD finds the broad class of one-to-one trauma-focused cognitive behavioural therapies to be the most *cost-effective* treatment approach for children and young people with PTSD (**Source 1,** p. 161). The guideline identifies the specific CT-PTSD model evaluated by Meiser-Stedman at UEA with colleagues at KCL and University of Cambridge (Outputs 1, 2) to be the most cost-effective treatment manual (**Source 1,** p.161).

These recommendations were underpinned by the health economic analysis (Output 2) of Meiser-Stedman's trial data (Output 1). Output 2 was one of only four studies to be utilised when deriving the assumptions for the *cost-effectiveness* evaluation: "***Costs associated with the PTSD and no PTSD health states were estimated using cost data from Shearer [et al.] (2018)"*** (**Source 1,** p. 442). Furthermore, Output 6 was one of only two studies used for *cost-utility* modelling, and was additionally used to estimate remission probability over time in children and young people with PTSD (**Source 1,** p. 434).

(2) Tools for assessing PTSD symptoms and mechanisms have enhanced practice

The Children's Post-Traumatic Cognitions Inventory (CPTCI; Output 5) is a key tool that has impacted clinical practice (**Source 3**; see pp. 5-9 for relevant material from this website) by helping clinicians to highlight key appraisals that underpin the persistence of PTSD (Outputs 1, 4). These appraisals can then be more precisely targeted in therapy sessions. A more practical abbreviated version has been developed for clinical use (Output 5). This tool has been used in international clinical trials (Germany, Norway; see Jensen et al., 2018, *Journal of Counseling Psychology,* Pfeiffer et al., 2017, *Behaviour Research & Therapy*). As with Meiser-Stedman's trial (Output 1), these trials have found that reducing the appraisals measured by the CPTCI is crucial for recovery from PTSD.

The CPTCI was used to encourage best practice with young people affected by the Manchester Arena bombing in 2017 and the support given to children and young people affected by the

Grenfell fire (**Source 4**). As noted by the Clinical Lead of the Grenfell Health & Wellbeing Service, clinicians used the CPTCI "***to understand better their [children's] way of thinking about this trauma and to guide treatment with that client.***" The tool has been widely distributed by prominent trainers who teach psychological therapies to clinicians, including trainers at the Anna Freud National Centre: "***[The CPTCI] enables the clinician and the client to focus the intervention on areas that are most likely to lessen distress and increase functioning***" (**Source 5**).

There are now 14 translations of the CPTCI (including Arabic, Farsi and German). These have been disseminated, free of charge, by international charities such as the Children and War Foundation (CWF). The CWF supports the delivery of evidence-based psychological therapies to children and adolescents affected by conflict and large natural disasters (e.g. in Syria, Iraq, and Sudan) (**Source 3**).

(3) Supporting communities to manage young people's reactions to traumatic events

Following exposure to trauma, there is considerable concern about the significance and management of early traumatic stress reactions. Meiser-Stedman's research has informed the timing and nature of clinical intervention, supporting the appropriate deployment of limited clinical resource in communities impacted by traumatic events.

Output 3 demonstrated that some traumatic stress symptoms in children are normal; these do not of themselves indicate a chronic course and do not necessarily indicate the need for treatment. Output 6, however, finds that natural recovery typically ceases by six months after the trauma. Therefore, the benefits of "active monitoring" – that is, maintaining contact with trauma-exposed children and young people while *not* offering an active intervention such as psychotherapy – do not extend endlessly; there comes a point where intervention is warranted. Based on Meiser-Stedman's research (Output 6), the most recent NICE guideline for treating PTSD in children and young people states that "***research demonstrates that children and young people who have PTSD six months after the traumatic event(s) occurred are very unlikely to recover without intervention (Hiller [et al.] 2016)***" (**Source 1, p. 67**).

Based on this research, messages regarding "active monitoring" were communicated through a leaflet produced in response to the Manchester terror attack. The leaflet has been downloaded over 3800 times (as of 1st February, 2021) and was distributed by the British Psychological Society (**Source 6**). These messages were also communicated through a website specifically directed at children and their parents affected by trauma (**Source 7**).

Meiser-Stedman was invited by the Greater Manchester Mental Health NHS Foundation Trust to lead a workshop on the delivery of CT-PTSD with mental health professionals working with children and young people affected by the Manchester terrorist attack in 2017. Clinicians attending this workshop valued the experience highly, reporting that it would positively impact their clinical work: ***"I feel my knowledge skills have really benefitted from today and my confidence …Focussing on PTSD for CYP with Richard Meiser-Stedman [was the most helpful aspect]–lots of very good resources."*** (**Source 8,** p. 1)

Similarly, the team set up in response to the Grenfell fire drew extensively on Meiser-Stedman's work when offering therapy to children and young people affected by the disaster (see **Source 4**). This included the selection of measures used with young people undergoing treatment (e.g., the CPTCI; Output 5), the focus of psychological therapy undertaken with these young people (i.e. which processes to target in sessions), and the quality of supervision offered to therapists. As noted by the Clinical Lead of the Grenfell Health & Wellbeing Service: ***"The publication of Richard's clinical trial paper in 2017 (Meiser-Stedman and colleagues 2017) was so specific to the needs of our youth, being concerned with early intervention and intervention following major single incident trauma. We have made frequent use of this paper in undertaking clinical supervision. It has been key for providing focus in our therapeutic work (with its clear identification of the psychological processes that underpin treatment response) and building confidence for our clinical team, who as you might expect are themselves frequently feeling considerable stress in dealing with the reactions to this incident."*** (**Source 4, p. 1**)

(4) Wider dissemination of evidence-based psychological therapy for PTSD in youth and training of practitioners

Meiser-Stedman's research has supported the training of clinicians in youth settings. Leading trainers such as a clinical psychologist from the Anna Freud National Centre for Children and Families have used the materials drawn from this research to train more than 1,000 clinicians: "***Professor Meiser-Stedman's work is central to the training that I provide; one of his papers is the single suggested pre-course reading.***" (**Source 5**)

Meiser-Stedman has directly delivered training to over 150 Children and Young People's Improving Access to Psychological Therapies practitioners in the South West of England and Manchester who work in Child and Adolescent Mental Health Services. Feedback and evaluations from participants show the impact of such training on their confidence in working with children with PTSD:

> *"**As you say, there can be a real fear treating trauma and this has helped me as a qualified CBT therapist to no end!!**"* (**Source 9**)
>
> *"**Made something that previously seemed complicated understandable.**"* (**Source 9**)
>
> ***"…this day has been fantastic in providing relatable information and practical strategies/resources so that now I feel more confident understanding PTSD and I am looking forward to working with my young person. Thank you!"*** (**Source 9**)

Summary

Meiser-Stedman's work has made a major contribution to the development of evidence-based care for children and young people affected by trauma. This body of research has contributed to the endorsement of trauma-focused cognitive behavioural therapy as the indicated treatment for PTSD in this age group and has played a central role in confirming the cost-effectiveness of this intervention. Understanding the natural recovery processes around PTSD in children and young people has led to clarity around the timing and structure of intervention for trauma-exposed youth following recent national disasters. Finally, identifying the precise targets for psychological therapy via use of the CPTCI questionnaire is supporting clinicians worldwide to offer effective and efficient treatment for these young people.

5. Sources to corroborate the impact

1. **National Institute for Health and Care Excellence (NICE) Guideline published December 2018. Post-Traumatic Stress Disorder NG116** and **Evidence reviews for psychological, psychosocial and other non-pharmacological interventions for the prevention of PTSD in children for NICE Guideline NG116. (From p. 57) December 2018.**
2. **International Society for Traumatic Stress Studies (ISTSS) - Posttraumatic Stress Disorder Prevention and Treatment Guidelines – Methodology and Recommendations – 2018.**
3. **Children and War Foundation website: childrenandwar.org**
   Accessed 4th December 2020 which offers access to the CPTCI Measure.
4. **Testimonial from the Clinical Lead, Grenfell Health & Wellbeing Service, Central & North West London NHS Foundation (2020).**
5. **Testimonial from Consultant Clinical Psychologist, Anna Freud National Centre for Children and Families (2020).**
6. **Manchester Attack Response Leaflet ("Supporting children and young people involved in major trauma: Advice for parents, caregivers and teachers", May 2017).**
   Includes British Psychological Society statement on the Manchester bombing and download data.
7. **Child Trauma Recovery website: childtraumarecovery.com**
   Accessed 4th December 2020.
8. **Letter of thanks (2017). Director, CBT Training Centre & Co-ordinator of Manchester Bombing Post-Incident PTSD Refresher Training.**
9. **Correspondence and evaluations: Feedback from Manchester CYP-IAPT programme, Greater Manchester Mental Health Trust (2019).**