



## STAFF ANALYSIS - ALAMEDA COUNTY

<b>Name of Innovative (INN) Project:</b>	<b>Introducing Neuroplasticity to Mental Health Services for Children</b>
<b>Total INN Funding Requested for Project:</b>	<b>\$2,054,534</b>
<b>Duration of Innovative Project:</b>	<b>Four (4) Years</b>

### **Review History:**

Approved by the County Board of Supervisors:	July 24, 2018
County submitted Innovation (INN Project):	August 6, 2018
MHSOAC consideration of INN Project:	October 25, 2018

### **Project Introduction:**

Research shows that early trauma, also known as adverse childhood experiences (ACEs), can severely impact the neurodevelopment of a child. Neurodevelopmental disorders are disabilities in the functioning of the brain that affect a child's behavior, memory or ability to learn well beyond childhood years. Neuroplasticity is defined as the brain's ability to reorganize and change throughout an individual's life.

Alameda County would like to incorporate neurodevelopmental interventions into participating elementary schools within their school district. The County proposes to do this by bringing Holistic Approach to Neuro-Developmental and Learning Efficiency (HANDLE) training for clinical and non-clinical providers to provide assessment and interventions in the participating elementary schools with the hopes that incorporating HANDLE will improve outcomes for youth experiencing mental health challenges by changing the brain's plasticity.

*In the balance of this brief we address specific criteria that the MHSOAC looks for when evaluating Innovation Plans, including:*

- *What is the unmet need that the county is trying to address?*
- *Does the proposed project address the need?*
- *Are there clear learning objectives that link to the need?*
- *Will the proposed evaluation allow the county to make any conclusions regarding their learning objectives?*

*In addition, the MHSOAC checks to see that the Innovation meets regulatory requirements, that the proposed project aligns with the core MHSA principles, promotes learning, funds exploration of a new and/or locally adapted mental health approach/practice, and targets one of the four (4) allowable primary purposes: increases access to mental health services to underserved groups; increases the quality of mental health services, including better outcomes; promotes interagency collaboration; and increases access to services, including, but not limited to, services provided through permanent supportive housing.* Alameda County asserts this innovation project meets the primary purpose of increasing the quality of mental health services, including measurable outcomes.

## **The Need**

Alameda County states there is research regarding neurodevelopmental differences in children who experience traumatic events early in life. Childhood trauma, known as Adverse Childhood Experiences (ACEs), can disrupt the brain's development which may result in physical, cognitive, and behavioral issues. ACEs may include events such as experiencing various types of abuse, neglect, growing up in a domestic violence environment, living in a household where mental illness is present, and parental separation and/or divorce. When children are exposed to stressful events, their development can become disrupted and as a result, develop negative coping mechanisms.

Additionally, there is existing correlation that indicates children who possess behavioral and emotional issues may also have underlying neurodevelopmental differences. It is Alameda's assertion that addressing these differences may result in improvement in emotional and behavioral issues.

Specific to the County, Alameda claims that in 2016, the Lucile Packard Foundation for Children's Health provided specialized educational services for the treatment of emotional disturbances for a total of 6,510 children (4.2%) between the ages of 5-12. Additionally, approximately 15% of students (n=23,250) in the County have been referred by school staff to Prevention and Early Intervention funded programs due to the child exhibiting behavioral and emotional issues.

Research performed for the writing of this analysis supports the County's findings that both positive and negative childhood experiences have significant impact on future violence victimization, perpetration, and overall health and well-being. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), approximately 46% of youth have reported experiencing at least one trauma by the time they turn 17 years of age and this can lead to serious health and social consequences as an adult. If the number of traumatic events experienced by children increase, this typically results in an increase of various risk factors. For example, higher ACE scores could mean an individual is more at risk to attempt suicide, become an alcoholic or abuse substances.

With this project, the County proposes to adopt neurodevelopmental interventions as a school pilot project for children who may exhibit emotional and behavioral issues and determine if those symptoms are reduced with the incorporation of these interventions.

One of the examples the County provided was that of a child who may have skipped the crawling stage as an infant/toddler and as a result, will likely exhibit higher levels of anxiety, frustration and an ability to focus due to the underdevelopment between the left and right hemispheres of the brain. An activity to recreate this neural connection would be to bounce a ball in “an intentionally rhythmic and repetitive manner”. This activity will create a new neural connection that would have originally been developed during the child’s crawling stage as an infant/toddler. **The County may wish to provide additional examples of some of the interventions that may be used to reduce neurodevelopmental issues in the school setting.**

### **The Response**

Alameda County proposes to incorporate a practice based on the neuroplasticity of the brain which effects learning, mood and behavior. This practice, called HANDLE (**H**olistic **A**pproach to **N**euro-**D**evelopmental and **L**earning **E**fficiency), has become a promising practice demonstrated to reduce underlying neurodevelopmental issues that can ultimately contribute to behavioral issues.

The research between neurodevelopmental disruption and childhood trauma is still being explored and there are studies to support that children diagnosed with ADHD experience functional improvements after being introduced to the HANDLE model. The County states there are HANDLE practitioners dispersed worldwide, with 12 HANDLE practitioners located in California. It is important to note that HANDLE does not teach coping skills; it is intended to improve brain function which can assist in reducing fundamental neurodevelopmental issues that can contribute to behavioral and emotional issues. Alameda County states this innovation project will address students who exhibit emotional and/or behavioral health issues and that HANDLE has not been previously evaluated regarding behavioral health issues. The HANDLE model is comprised of an initial assessment which helps to discover interruptions in the communication between the body and the brain which may add to functional difficulties.

For this project, the County states this innovation project will include the following steps **(see pages 103-104 for full details of steps below)**:

1. Participating schools and staff who will receive HANDLE training will be identified. HANDLE practitioners will then train approximately 150 individuals consisting of youth services staff from Alameda Behavioral Health Care Services (BHCS), staff from the participating elementary schools, parents of BHCS clients or students attending the participating elementary schools.
2. Training and certification for those who will be providing the neurodevelopmental interventions for students at the participating schools. It is anticipated that two full time equivalent (2.0 FTE), and up to six (6) part time positions, will be needed for this project.

Additionally, approximately 12 staff (6 school staff and 6 BHCS staff) will attend a 14-day training to learn how to conduct assessment and apply more specific interventions. Later during the project, six (6) of the HANDLE practitioners will take

a more advanced assessment and intervention training. That training will be a total of 25 days and will take place over a several month period.

3. Lastly will come the three (3) part process of the implementation and application of HANDLE:
  - a. Identification: School personnel will identify students who may be exhibiting signs of emotional and/or behavioral problems. Both the child's parent/guardian and child's teacher will be asking to complete a brief questionnaire along with a completing a checklist of possible concerns. Questionnaires and the checklist will be provided by HANDLE. Parent permission will be required in order for identified students to continue in this project. Additionally, parent involvement is also welcome. **The County may wish to explain the criteria that will be utilized when identifying children who may benefit from the HANDLE model.**
  - b. Assessment: Depending on the results of the questionnaire, children who meet the established criteria will be assessed by a HANDLE practitioner who has already received previous training and certification.
  - c. Intervention: Based upon the assessment, HANDLE practitioners will develop an intervention plan to address any identified neurological weaknesses. Once the intervention plan has been created, the HANDLE practitioner will review the intervention plan with the student's parent/guardian and the child's assigned Parent Aide. The Parent Aide will then provide neurodevelopmental interventions every day at school for a four (4) month period. Students receiving an assessment that identifies and requires more significant needs will be provided a more intensive six (6) month intervention. These interventions will occur in years two (2) and three (3) of the project. **The County may wish to discuss how this daily intervention may impact the child's curriculum or if it will cause child to fall behind in academics.**

One of the lead staff in this innovation project is a HANDLE trainer and will continue providing ongoing clinical support as needed throughout the duration of this project.

Alameda County states this is innovative because the integration of neurodevelopmental assessments and interventions may lead to improved outcomes for youth who may be experiencing a wide variety of mental health issues. Because neurodevelopmental research is still an evolving arena, mental health therapists are unlikely to have received formal training in this area as part of their academia. The treatment of underlying neurodevelopmental issues may ultimately also address any emotional and behavioral symptoms as a result. The County asserts that the provision of HANDLE services is a feasible way to provide non-clinical services for children who may be experiencing emotional and/or behavioral issues.

### **The Community Planning Process**

Alameda County states their community planning process for this innovation project began in June 2017 and allowed for community feedback and input while developing this project. Five (5) separate community forums were held in each of the supervisory districts; 18 focus groups representing the various diverse populations were conducted in

the County; and a total of 550 surveys were completed and submitted in various languages to solicit feedback and input from the community. Alameda County asserts that school staff, parents, and providers will be culturally diverse and representative of the community. Additionally, schools participating in this project have been selected to ensure diversity in terms of culture, race, ethnicity, and socio-economic status and are represented in order to ensure underserved populations have access to these types of services.

Based on the needs identified during the CPP process, feedback from stakeholders revealed that behavioral issues and trauma in school settings were of primary concern. Public comment period at the County level began April 13, 2018 and concluded with a public hearing on May 14 2018. Alameda County submitted, as part of the innovation project, the substantive feedback that was received during the public comment period. Additionally, the County responded back to the public comments that were made (**see pgs 20-21 of plan**). The County also included letters of support along with their innovation project.

The link to this innovation project was also shared with stakeholders on April 18, 2018 while the County was in the middle of their county-level public comment period. Although the County received and responded to feedback, no letters of support or opposition were received at MHSOAC.

### **Learning Objectives and Evaluation**

Alameda County plans on implementing a project to provide neurodevelopmental interventions in a non-clinical setting with the overall goal of reducing symptoms and improving functioning among students experiencing emotional and behavioral disorders. The County will target students in the County between the ages of 5 and 12 exhibiting emotional and behavioral disorders. It is the hope that approximately 70 students will be served each year, with a total of approximately 200 students receiving intervention services over the span of the three-year project. To guide their project, the County has identified two main learning goals, as well as short, medium, and long term outcomes (**See pg. 99 of County plan for logic model**):

1. Determine if implementing a neurodevelopmental approach to mental health changes the way educators and mental health providers understand children with emotional and behavioral disorders
  - a. *Short-term outcome*: increase knowledge and skills on neurodevelopment, framework, assessment, and interventions by 75%
  - b. *Medium-term outcome*: Increase neurodevelopment-informed responses to students by 50%
  - c. *Long-term outcome*: Increase understanding of student behavior by 70%
2. Determine if neurodevelopmental interventions, using the HANDLE model among youth in the target population, reduces their emotional and behavioral symptoms and increases academic outcomes

- a. *Short-term outcome*: students receiving interventions experience improved neuro-development, improved emotional or behavioral symptoms, and improved school performance
- b. *Medium-term outcome*: students continue to show improvement over the year post-intervention
- c. *Long-term outcome*: students experience long-term improved mental health and functional outcomes

In order to determine the effect that the HANDLE approach has on increasing neurodevelopment knowledge, the County will track trainings, provide surveys to participants after each training, track referral patterns, and hold focus groups at the conclusion of the project. In order to understand the impact that the interventions have on students' emotional and behavioral symptoms, and academic outcomes, the County will track HANDLE assessments, treatment plans and interventions, use a standardized tool to track changes in mental health symptoms and emotional regulation, as well as track school performance (**see pgs. 106-107 of County plan**). The County states that evaluators will review individual education plans (IEPs) for HANDLE participants one year after services have been provided in order to determine if any trends can be discerned.

Alameda County will contract out for evaluative purposes. An outside evaluator will assist the County in finalizing the evaluation plan, gathering and analyzing the data, and completing the final evaluation report. At the conclusion of the project, results and findings will be shared among other schools, stakeholders, and among other counties. Additionally, findings will be presented at various meetings with the MHSA Stakeholder Group, the Cultural Competency Advisory Board (CCAB), the Whole Person Care consumer group, NAMI, and others.

### **The Budget**

Total proposed expenditures for this innovation project is \$2,538,071; however, Alameda County is seeking approval for MHSA innovation funds in the amount of \$2,054,534 for a total project length of four (4) years. The County anticipates in-kind funding (staff time and resources) in the amount of \$483,537 (19%) in order for the Behavioral Health Clinician II's to attend training, complete assessments, and creating intervention plans. Alameda states this in-kind funding will come from the County General Fund, Early and Periodic Screening, Diagnostic and Treatment (EPSDT), and/or realignment funds.

The County will expend a total of \$943,631 (37%) on employee salaries and staff will consist of a Behavioral Health Clinical Supervisor and a Clinician II.

Operating costs total \$80,200 (3%) and will be used for office supplies, resource manuals, snacks, incentives, and paying for substitute teachers while the teacher's attend training. Indirect costs total \$267,983 (11%) and will cover employee benefits, information technology, contract management, rent, utilities, and other various expenditures to facilitate the administration of this project.

A total of \$762,720 (30%) has been allotted for the evaluation and associated consultant costs. Of this amount, \$120,000 will be for the evaluation itself and will be contracted out; \$135,000 will be provided for the HANDLE trainers for Fiscal Years (FY) 19/20 and FY 20/21; and the remaining \$507,720 will pay for the parent aides. The County anticipates the parent aides will be filled with a total of six (6) part time aides to ensure adequate student coverage. These six (6) part time positions will be the equivalent of two (2) full time positions.

In regards to sustainability, the County states the continuation of this project will depend upon the overall evaluation results, the success, and available funding, recommendations from stakeholders, and support from the Children's system of care. If this project will be continued, the County may consider Prevention and Early Intervention or Community Service and Supports funding. Subject to Assembly Bill 114 (AB-14), the County will be using funds deemed reverted from FY 10/11 to cover expenses incurred during FY 18/19 and 19/20.

### **Additional Regulatory Requirements**

*The proposed project appears to meet the minimum requirements listed under MHSIA Innovation regulations.*

### **References**

<https://sharpbrains.com/blog/2008/02/26/brain-plasticity-how-learning-changes-your-brain/>

<https://stepwellboulder.com/how-trauma-early-in-life-affects-neurodevelopment/>

[https://www.samhsa.gov/sites/default/files/brief\\_report\\_natl\\_childrens\\_mh\\_awareness\\_day.pdf](https://www.samhsa.gov/sites/default/files/brief_report_natl_childrens_mh_awareness_day.pdf)

Anda, R.F & Felitti, V.J. (2003), ACE Reporter: *Origins and Essence of the Study*, v.1(1), pgs 1-2

### **Full project proposal can be accessed here:**

[http://mhsoac.ca.gov/sites/default/files/documents/2018-10/Alameda%20County\\_INN%20PLAN\\_%20Neuroplasticity%20for%20Children\\_8.6.2018\\_Final.pdf](http://mhsoac.ca.gov/sites/default/files/documents/2018-10/Alameda%20County_INN%20PLAN_%20Neuroplasticity%20for%20Children_8.6.2018_Final.pdf)