



# The Center on Parenting and Opioids

## The value of mechanistic experiments to target the shared neural circuitry of parenting and addiction: The potential for video feedback interventions

Ann-Marie Y. Barrett, Kavya R. Mudiam, and Philip A. Fisher

### KEY HIGHLIGHTS

- > Caregivers with addiction often experience brain changes related to how they process stress and rewards, resulting in reciprocal influences between caregiving and addiction experiences.
- > Video feedback intervention, which can provide a personalized and strength-based curriculum, is an especially promising tool to reach caregivers with addiction.
- > Intervention research that incorporates brain measures can help clarify what why parts of interventions work and who they help the most.

### SUMMARY

Many people with substance use disorders are caregivers of young children who may require additional support that is designed according to their specific needs. Interventions that recognize the common experiences (both cognitively and behaviorally) that caregivers with substance use disorders have will be able to provide that tailored support. For many in this population, brain connections that are activated during stressful and rewarding experiences are influenced by both the act of caregiving and the use of psychoactive drugs not prescribed by a doctor. These shared connections can result in a reciprocal influence wherein addiction impacts caregiving behaviors and caregiving behaviors impact addiction.

Video feedback parenting interventions may be particularly useful at targeting the brain connections that underlie stress and reward processes. In these interventions, instructors provide caregivers personalized feedback on their interactions with their child using recordings. These interventions have been successful at increasing caregiver's sensitive responses to their child, and further research will be useful to understand what types of caregivers benefit the most from these interventions and why they might work.

To leverage the field’s knowledge of brain functioning in caregivers with substance use disorders, researchers can use clinical trials to study whether video feedback interventions interrupt unhelpful influences of addiction and parenting difficulties on stress and reward brain connections and whether that interruption results in healthy outcomes for caregivers and children. The authors provide an example of such a plan with the Filming Interactions to Nurture Development (FIND) intervention. This video feedback intervention was designed to help caregivers in providing supportive responses to child-led behaviors. Caregivers are paired with a coach who uses recordings to highlight moments when the caregiver is engaging in responses that are helpful to their child’s development in their everyday life. The design process of FIND was intended for large-scale growth in the broader community through its strength-based nature, less time-intensive curriculum, and ability to have professionals from a wide variety of backgrounds (rather than exclusively people with specialty knowledge or degrees) deliver the intervention. In a current clinical trial, researchers are investigating the brain and behavioral changes that account for FIND’s intervention effect and identifying other factors that influence the effect to learn whether there are different cognitive profiles of mothers with a history of opioid use (e.g., some mothers may have high motivation and low reward responses in their brains, while others have low motivation and high reward responses in their brains), whether any types respond differently to the intervention, and how sensitive they are to change.

## IMPLICATIONS FOR POLICY RESEARCH AND PRACTICE

To reduce the influence of substance use disorders on caregiving, resources and interventions should be informed by research that recognizes the shared and unique influences that caregiving and addiction have on the brain and parenting behaviors. Interventions that address this interaction, such as FIND, have the potential to be more efficient and expandable, which results in helpful, lower-cost treatments that are easier to access for caregivers with substance use disorders and their children.

## REFERENCE

Barrett, A.-M. Y., Mudiam, K. R., & Fisher, P. A. (2021). The value of mechanistic experiments to target the shared neural circuitry of parenting and addiction: The potential for video feedback interventions. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.703948>

## SUGGESTED CITATION

Barrett, A.-M. Y., Mudiam, K. R., & Fisher, P. A. (2021). The value of mechanistic experiments to target the shared neural circuitry of parenting and addiction: The potential for video feedback interventions. *CPO Research Brief*. <https://doi.org/10.3389/fpsyg.2021.703948>

## ABOUT THE AUTHORS

**Ann-Marie Y. Barrett** and **Kavya R. Mudiam** are doctoral students in the Clinical Psychology program at the University of Oregon. **Philip A. Fisher** is Philip H. Knight Chair and Professor of Psychology at the University of Oregon.

## ACKNOWLEDGEMENTS

The authors express gratitude to community members and families who volunteer for these research efforts and the research team and staff who support the delivery and evaluation of FIND. The support for writing of this brief and manuscript is provided by grant P50 DA048756 from the National Institute on Drug Abuse.

