Building Bridges in Research Education:
THE NATIONAL NEUROSCIENCE CURRICULUM INITIATIVE

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NNCI NATIONAL NEUROSCIENCE CURRICULUM INITIATIVE

Background

Developing a psychiatrist workforce with a strong neuroscience background will be critical in the ultimate translation of basic neuroscience to the field.

The field of psychiatry faces unparalleled challenges in the ultimate translation of research to clinical practice. While most disciplines of medicine are rooted in a biological understanding of illness, the field of psychiatry largely developed prior to advances in modern neuroscience and in the absence of sophisticated biological explanations. What has resulted is an enormous practice gap: despite the central role that neuroscience is poised to assume in psychiatry, the field continues to underemphasize this essential perspective. In order to address this gap Residency Training Directors in Psychiatry at four major research institutions (Columbia, Brown, Pittsburgh and Yale) joined together in 2013 to form the National Neuroscience Curriculum Initiative (NNCI). Our goal was to develop and disseminate effective resources for teaching psychiatry residents the latest advances in neuroscience research.

Methods

We developed courses (or learning modules) that employ interactive approaches for teaching neuroscience in the classroom. Each module includes a facilitator's guide with step-by-step instructions for implementing in-class exercises, as well as additional resources (videos, worksheets, and answer keys).

Additional resources include short expert videos in which leading neuroscientists summarize and translate essential elements of their research to a clinically focused audience.

Dissemination approaches included the creation of a website with freely available resources (www.NNCIonline.org) as well as training programs at national conferences and local institutions.

To expand available resources, participants are encouraged to contribute additional teaching sessions back to the NNCI, based upon the existing framework of the various learning modules.

Results

To date, the NNCI has developed six example learning modules, each reflecting a distinct teaching approach founded on principles of adult learning.

Neuroscience in the Media
Exploring the interface between the media, neuroscience, and psychiatry

Talking Pathways to Patients
Learn how to talk with patients about neural pathways underlying specific disorders.

Fundamentals of Neuroscience
Videos and other learning activities to enhance foundational knowledge of neuroscience and psychiatry

Neuroscience Lab
Experiential learning approaches that bring core concepts in neuroscience to life

Based upon these and other modules, we have received at least 50 new sessions from participants that are currently being reviewed and edited for posting.

Acknowledgements

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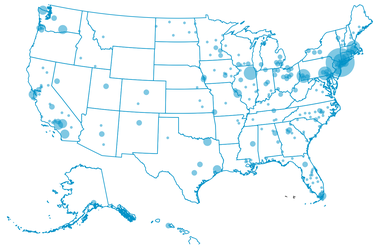
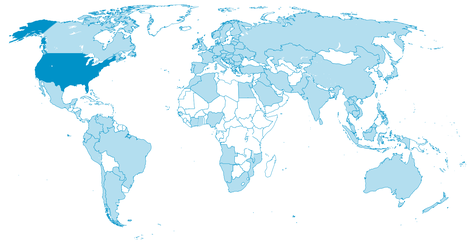
Affiliations

(1) Columbia University College of Physicians and Surgeons and The New York State Psychiatric Institute (2) University of Pittsburgh (3) Alpert Medical School of Brown University (4) Research Foundation for Mental Hygiene (5) Yale School of Medicine.

1166 US cities have visited our site



123 countries have visited our site.



Since launching our new website in March, 2015 the site has hosted 10,286 users from 123 countries with 72,472 page views.

650 individuals have attended training programs hosted in the U.S. and Brazil.

73 OUT OF **96**

Our primary outcome measure is whether psychiatry residency training programs are using our materials and/or increasing neuroscience teaching. Following our first major outreach event in March 2014, 73 out of 96 individuals surveyed a year later reported incorporating NNCI teaching approaches within their residency curriculum.

The New York Times
JAMA
NIMH National Institute of Mental Health

Evidence of our success in stimulating dialogue about the importance of neuroscience in psychiatry include articles published about the NNCI in JAMA Psychiatry, the Journal of the American Academy of Child and Adolescent Psychiatry, the NIMH Director's blog, the New York Times, and the Huffington Post.

Conclusion

During the initial phase of the NNCI we have designed a set of unique, experiential approaches to teaching and learning neuroscience that have been widely adopted by residency programs.

NNCI teaching resources could be implemented with a wide spectrum of learners: from undergraduate to graduate students and from basic scientists to clinicians in the field. Combined, these approaches offer a framework that could easily be adopted and implemented by other programs and institutions to address gaps in teaching resources on other topics.