Using NC Statewide Telepsychiatry Program (NC-STeP) to Address Access to Critical Behavioral Health Crises for the Populated Coast

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ABSTRACT

Global disasters are on the rise, causing a significant increase in mental health-related problems alongside a scarcity of mental health professionals, creating an urgent need for innovative methods to deliver mental health services (1, 2). Telepsychiatry can be used to connect those experiencing a natural disaster with the much-needed medical and mental health care when services may be cut off. Telepsychiatry provides a variety of services including diagnostic evaluations, medication management, therapy and inpatient education.

BACKGROUND

Natural Disasters have a profound effect on human life resulting in immediate and long-lasting individual, family and community impacts. UN reports that disasters, natural and manmade have caused 68.5 million forcibly displaced Persons, 40.3 million internally displaced Persons, 25.4 million refugees and 10 million stateless persons worldwide (3). Between 1994 and 2013 natural disasters have effected more than 218 million people every year (4). Hurricane Katrina has been described as the costliest and deadliest natural disaster in the United States history with the cost of devastation on the Gulf Coast estimated to exceed $100 billion and a death toll of more than 1800 (5)

In the aftermath of Hurricane Katrina many chronically psychiatrically ill patients were left behind and went without proper psychiatric care; these individuals rapidly ran out of medication and many were unable to provide accurate information regarding the prescriptions to available healthcare providers. Others were improperly diagnosed simply due to lack of specialist care and coordination of care in the area (6).

North Carolina is facing frequent threats from hurricanes and topical storms as well as a shortage of mental health professionals and resources.

North Carolina coast is vulnerable to a direct hurricane strike and inland cities and towns across the state can also be devastated by the high winds and potential tornados, storm surges, flooding and landslides from hurricanes and tropical storms (7). As per the hurricane statistics from North Carolina climate office, 382 storms affected NC between 1851 and 2018 either by direct land falling or by affecting within 150 miles, with an average of 2.27 storms per year. Of these 83 storms had direct land falling in North Carolina with the recent Hurricane Florence in 2018 causing most destruction and most fatalities so far in this century (8, 9)

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MATERIALS & METHODS

NC-STeP utilizes a network of eight Clinical Provider Hubs with 54 consultant providers located across the state to provide services to 57 partnered hospitals across North Carolina. The network hubs provide an on-demand service seven days a week from 8:00 AM to 6:00 PM.

NC-STeP was facilitated by North Carolina secession law 2013-360 which was recodified as G.S. 143B-139 in 2018, which expanded the scope of NC-STeP to community-based settings. Currently, there are eight community-based sites across the state.

NC-STeP is based at East Carolina University, Center for Telepsychiatry and E-Behavioral Health
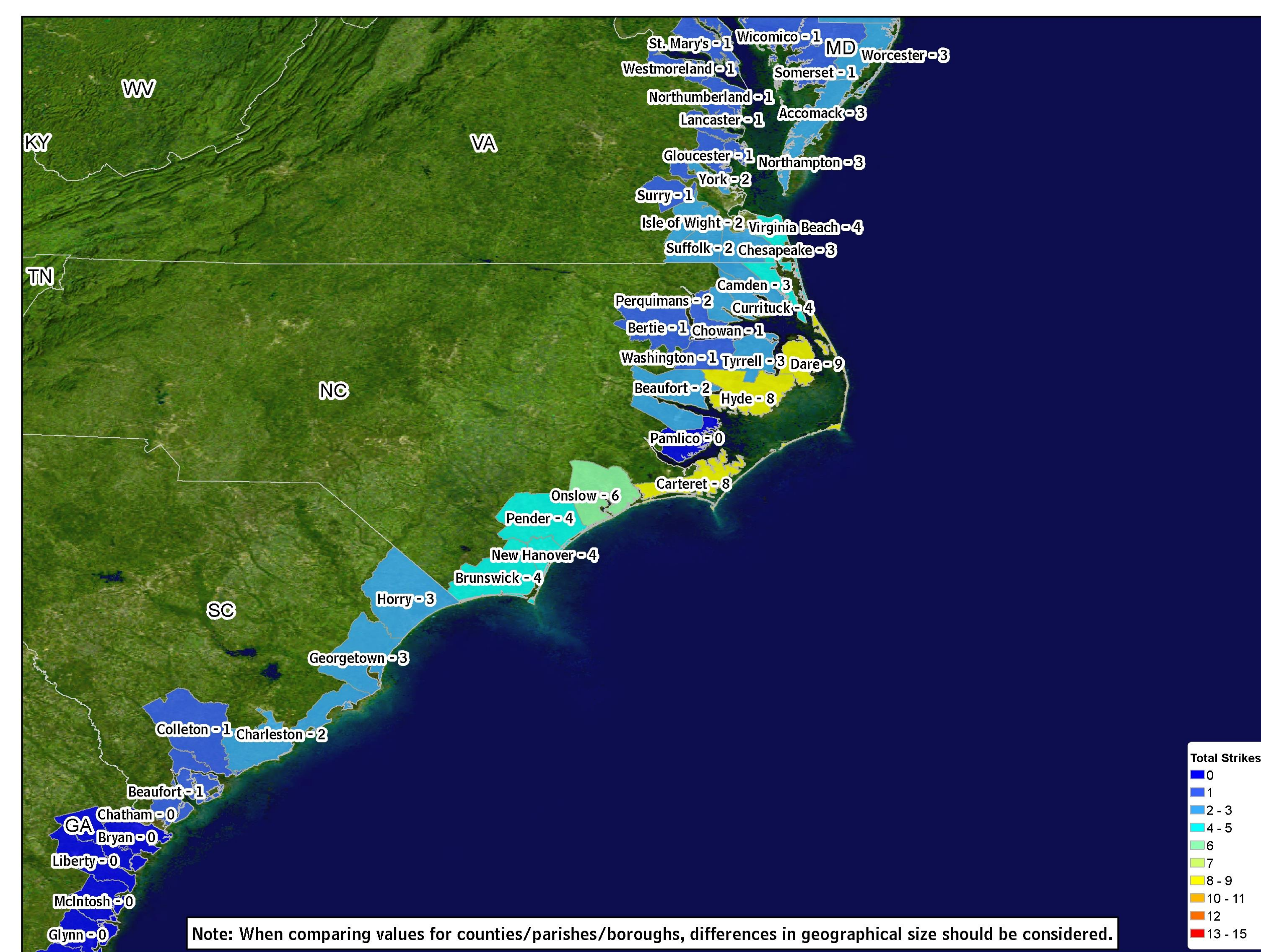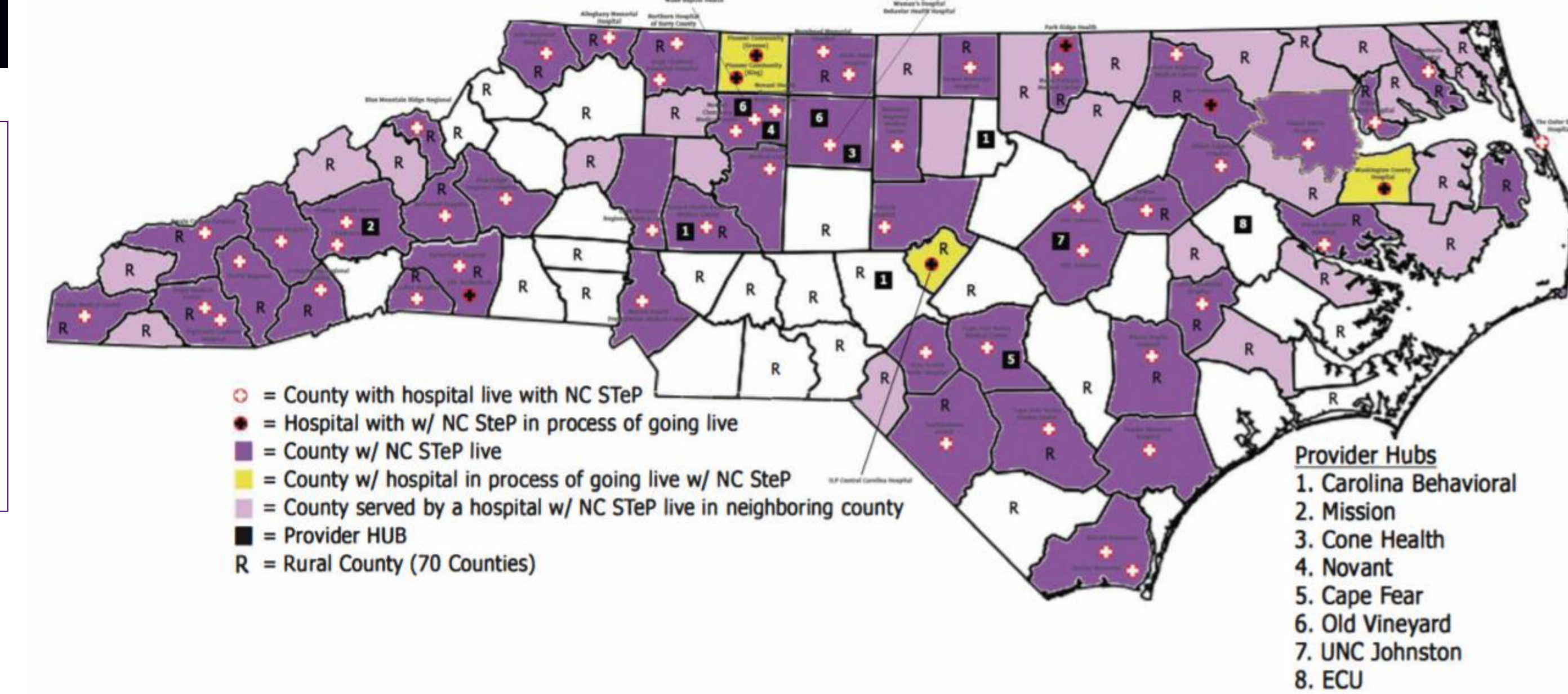
Total number of major hurricane strikes by counties/parishes/boroughs, 1900-2010

Data from NWS NHC 46: Hurricane Experience Levels of Coastal County Populations from Texas to Maine. Jerry D. Jarrell, Paul J. Hebert, and Max Mayfield. August, 1992, with updates.

CONCLUSION

Telepsychiatry can provide transitional or even ongoing care for those with chronic mental illness during disasters when entire system of mental health care becomes disrupted or destroyed and can help to provide a safety net until the system of care is rebuilt. With expanding infrastructure and provider volume, NC-STeP has the potential to bridge the gap in mental health care in North Carolina and can play a vital role in disaster response to provide much needed mental health care during and after natural disasters.

Provider Hubs
1. Carolina Behavioral
2. Mission
3. Cone Health
4. Novant
5. Cape Fear
6. Old Vineyard
7. UNC Johnston
8. ECU

RESULTS

The North Carolina Statewide Telepsychiatry Program (NC-STeP) has been operational since 2013. Even within the first 11 months of its implementation, NC-STeP reported an impressive return on investment – the average length-of-stay was cut by half and a $2 million program was saving ~$7 million. From its inception in October 2013 to March 2019, NC-STeP has conducted 36,959 telepsychiatry assessments and overturned 4,942 involuntary commitments, thus preventing unnecessary hospitalizations resulting in savings of $26,686,800 to the state. Currently, the average time from request to a completed consult (in queue to consult complete) is 3:17 (hr:min). A DHHS 2018 profile of the NC NC-STeP program documents that the program has generated cost savings from overturned involuntary commitments (reducing the need for expensive inpatient care) and from economic impacts (including improved health outcomes and reduced health care costs).

DISCUSSION

An environment that provides sensitive support for individuals and families affected by disasters can be created by the application of scientific knowledge to disaster response. Tele psychiatry brings the promise of much-needed specialty expertise to those in under severed and difficult to reach settings. It is crucial to fully integrate mental and behavioral health responses and support in overall disaster response to aid recovery and build resilience. For this to happen innovative methods of delivering mental healthcare should be adopted and successful implementation strategies to integrate tele psychiatry into diverse settings and models of healthcare are needed to reach populations in need of mental healthcare regardless of location.