1. SPECIFIC AIMS

The clinical implementation of this strategy hinges on accommodating a markedly increased patient throughput demand’ internet based healthcare providers. This communication protocol will continue to be used weekly for coordinating the estimated 1200 children and adults with refractory epilepsy living in McHenry County, IL.

2. METHODS

The methodology combines the following 4 innovative components:

1. Mood disorders screening measures for depression (cID mod E) and anxiety (cID 7) in the rural EFNCIL clinic were compared with those seen in an urban-based setting (Rush Epilepsy Center, Chicago, IL) (FIG. 2A).

2. A customized design-wide electronic health record and relational database was created for accessing and tracking allocation of all geographically distant community-based resources and providers (FIG. 2B).

3. A HIPAA-compliant mobile video-conferencing communication protocol and technology was deployed for remote access of specialists at RUMC with patients and community-based healthcare providers (FIG. 3).

4. A community-based coordination hub facilitated the above components.

3. RURAL TELEHEALTH

Screening for Depression (NDDI-E1) and Generalized Anxiety Disorder (GAD-7) 2013-2015

A HIPAA-compliant portable video-conferencing communication protocol and technology is instituted in the coordination hub for remote access of specialists at RUMC with patients and community-based healthcare providers. The communication protocol will continue to be used weekly for coordinating the estimated 1200 children and adults with refractory epilepsy living in McHenry County, IL.

4. RESULTS

• A four-fold increase is observed in successful epilepsy specialist referrals at the distant tertiary care center (RUMC) of children and adults evaluated between 2012-2015 (p<0.05).

• ‘On-demand’ community psychosocial resources were successfully matched with all patients using our networking provider database.

• A two-fold increase in clinically significant mood disorders were seen in rural patients compared with urban based patients identified at the RUSH Epilepsy Center (p< 0.05) (FIG 2). The elevated NIDDI-E1 and GAD-7 measures are consistent with major and sub-syndromatic mood disorders.

5. CONCLUSIONS

• This mobile health IT-intensive population health-based outreach delivery model overcomes barriers preventing such coordinated care from being implemented in rural communities.

• The model significantly expands the geographic reach of a distant tertiary care medical center to an underserved region. Preliminary data suggest that an independent community-based coordination hub can efficiently maximize patient access to community psychosocial resources, medical expertise, and customized patient education.

• Next steps will include remote case management of both children and adults with refractory epilepsy due to causes from traumatic brain injury to genetic disorders with co-occurring general health conditions. Mobile health will bridge the geographically distant emergency departments with RUMC. An expanded suite of quick assessment tools will be employed, such as: 1) the Child Depression Inventory, 2) Family Inventory Resources for Management tool, 3) a standardized survey for assessing perceptions of care and communication between clinicians and group practices (CHAPS) (https://chapsh.ahrq.gov), and 4) the Telehealth Patient Satisfaction Survey Instrument (http://www.utahtelehealth.net).

• Mental health conditions without epilepsy must be included as a reference to understand the impact of epilepsy itself.

6. ACKNOWLEDGEMENTS

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7. REFERENCES