Patients living in rural areas typically have poorer access to clinical pharmacy services than their urban counterparts.\(^1\) Medication therapy management (MTM) results in positive health outcomes for patients with complex chronic conditions.\(^2,3\) Limited published literature exists regarding interprofessional collaboration via video conference for clinical pharmacy services in rural areas. In 2016, the University of Arizona Medication Management Center (UAMMC) created a novel pilot program to collaborate with a rural satellite location of the Epilepsy Foundation to provide their patients with interprofessional MTM services via video conferencing.

**OBJECTIVES**

- To evaluate whether an interprofessional, collaborative approach to MTM utilizing centralized, video-based, clinical pharmacy services solutions can enhance patient care, ultimately improving health outcomes for rural patients with epilepsy.

**METHODS (CONT.)**

### Medication Review Components

- The initial CMR included:
  - Medication reconciliation, including over-the-counter medications and supplements
  - Evaluation of level of control (e.g., well controlled, poorly controlled) of current health conditions, including epilepsy and other co-morbidities
  - Assessment for safety concerns, including therapeutic duplications, drug-disease and drug-drug interactions, dosing concerns, and adverse drug reactions.
  - Medication adherence assessment via patient self-report (i.e., “In the past month, how often do you forget to take any of your medicines?” with potential responses of “never,” “rarely,” “sometimes,” “often,” or “very often?”).
  - General medication counseling and addressing patient concerns

### Observations

#### Demographics

<table>
<thead>
<tr>
<th>Age Group</th>
<th>N (%): Male</th>
<th>N (%): Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>18 (48)</td>
<td>39 (52)</td>
</tr>
<tr>
<td>10-19</td>
<td>30 (40)</td>
<td>39 (50)</td>
</tr>
<tr>
<td>20-29</td>
<td>27 (40)</td>
<td>22 (33)</td>
</tr>
<tr>
<td>30-39</td>
<td>10 (15)</td>
<td>30 (45)</td>
</tr>
<tr>
<td>40-49</td>
<td>5 (10)</td>
<td>5 (10)</td>
</tr>
<tr>
<td>50-59</td>
<td>3 (5)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>60+</td>
<td>2 (3)</td>
<td>1 (2)</td>
</tr>
</tbody>
</table>

#### Vaccinations

- During the follow up telephone call, the telepharmacist evaluates the patient's vaccination status. The most commonly recommended vaccination was the flu vaccine (83% of qualified patients were eligible).

- A total of 63 patients have participated in the program to date.
- Roughly half of the participants were female (59%), with a median age of 23 years.

**Preliminary analysis showed positive program outcomes, suggesting that:** integration of telepharmacy-based clinical pharmacy services solutions can enhance patient care, ultimately improving health outcomes for rural patients with epilepsy.

<table>
<thead>
<tr>
<th>Assessment question</th>
<th>Never (%)</th>
<th>Rarely (%)</th>
<th>Sometimes (%)</th>
<th>Often (%)</th>
<th>Very often (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;In the past month, how often did you forget to take any of your medicines?&quot;</td>
<td>58 (37)</td>
<td>10 (17)</td>
<td>9 (16)</td>
<td>0 (0)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>&quot;In the past month, how often did you forget to take any of your medicines?&quot;</td>
<td>57 (38)</td>
<td>8 (14)</td>
<td>1 (2)</td>
<td>1 (2)</td>
<td>2 (4)</td>
</tr>
</tbody>
</table>

**RESULTS**

- A UAMMC clinical telepharmacist participated in video conferencing appointments involving Epilepsy Foundation patients, the nursing staff, and the epileptologist once a week.
- The telepharmacist conducted a comprehensive medication review (CMR) directly with the patient. Any resulting concerns or recommendations were immediately relayed to the epileptologist and acted upon during the video conferencing session, as appropriate.
- The epileptologist was encouraged to utilize the telepharmacist's clinical knowledge to formulate collaborative patient treatment decisions.
- Each patient received a current medication list and a medication action plan in the mail, following the consultation. He/she was given the UAMMC's telephone number, in case he/she had any medication-related questions or concerns in the future.
- High-risk patients (see criteria below) received a follow-up telephone call from the UAMMC pharmacist three months after the initial video conferencing consultation. All other patients received telephone follow-up six months post-initial visit.
- The telepharmacist submitted a summary of the initial consultation, any follow-up conversations, and all clinical recommendations to the Epilepsy Foundation’s electronic health record (EHR).

**DISCUSSION**

- To be identified as high risk, patients met one or more of the following criteria:
  - Problems identified with adherence (patients who have reported that they “sometimes,” “often,” or “very often” forget to take their medications or skip doses for any other reason)
  - Problems with side effects
  - Problems with access to care
  - Recent increase in seizure activity
  - Recent changes to medication regimen
  - General confusion about medication regimen
  - Unresolved/pending medication issue

**CONCLUSIONS**

- Preliminary analysis showed positive program outcomes, suggesting that: integration of video-based clinical pharmacy technology and clinical pharmacy services may provide a novel and feasible approach to facilitate standard epilepsy care and help increase rural patients’ access to MTM.

- Future studies are needed to:
  - Explore the cost effectiveness of this type of collaborative program;
  - Compare this approach to traditional face-to-face models; and
  - Evaluate outcomes in diverse patient populations and clinical settings.

**REFERENCES**

2. Human immunodeficiency virus (HIV), and associated conditions. [Accessed 2011 April].
3. Interprofessional Telepharmacy Practice: University of Arizona Medication Management Center (UAMMC); University of Arizona College of Pharmacy; Arizona Health Sciences Library.

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**DISCLOSURES**

- The authors have no disclosures to report.