Challenges

• Specialty medications represent a growing part of the pharmacological management of chronic disease states such as cystic fibrosis (CF).

• The management of CF in the pediatric population is complex, as it involves multiple medications and treatment success is largely determined by adherence to the care plan.

• Due to various factors, there can be delays between prescribing of specialty medications and initiation of therapy in the pediatric CF population as well as barriers to continued adherence.

Advantages of Health-System Specialty Pharmacy

<table>
<thead>
<tr>
<th>Clinical assessment &amp; monitoring</th>
<th>Outside Specialty Pharmacy Services</th>
<th>Health-System Specialty Pharmacy Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical education</td>
<td>May not have access to electronic medical record (EMR)</td>
<td>Direct access to electronic medical record (EMR)</td>
</tr>
<tr>
<td>Patient education</td>
<td>Limited</td>
<td>Continuous</td>
</tr>
<tr>
<td>Turn-around time</td>
<td>Average 7-14 days</td>
<td>&lt; 72 hours</td>
</tr>
<tr>
<td>Financial services</td>
<td>Limited assistance</td>
<td>Prior authorization &amp; financial assistance</td>
</tr>
<tr>
<td>Coordination of care</td>
<td>Limited/no direct access to pharmacy</td>
<td>Close access to pharmacy &amp; nurses</td>
</tr>
<tr>
<td>Access to medications</td>
<td>Limited prescription pick-up</td>
<td>Local prescription pick-up, same-day or next-day delivery</td>
</tr>
</tbody>
</table>

Objective

• Assess the impact of Outpatient Pharmacy Services (OPS) at Yale New Haven Health on medication adherence in pediatric patients with cystic fibrosis.

Project Description

• A prospective review of medication adherence in 65 pediatric patients with CF was conducted over a 6 month period and compared to a retrospective cohort.

• Education about health system specialty pharmacy services was delivered to patients through: invitation letter to the patient, informational pamphlets distributed in clinic, and direct education in clinic by the pharmacist.

• A clinic workflow was developed and implemented in September 2018 to streamline the patient referral process:

  - Physician completes prior authorization.
  - Patient informs health care team of preference to switch to OPS.
  - Patient is seen by clinic pharmacist for education about health system specialty pharmacy services.
  - Medications are delivered to patient.
  - OPS follows up with patient regarding medication questions and refill.
  - OPS performs benefits investigation and completes prior authorizations.
  - OPS fills prescriptions.

Results

Prescriptions Received and Filled by OPS: September 2018 – February 2019

- Pre-Implementation: 65
- Post-Implementation: 142

Clinical Continuity Rate

- Pre-Implementation: 7.7%
- Post-Implementation: 70.4%

Fill Rate

- Pre-Implementation: 100%
- Post-Implementation: 89%

PDC

- Pre-Implementation: 0.75
- Post-Implementation: 0.80

Future Directions

• Development and implementation of collaborative practice agreements within the pediatric CF clinic

• Expansion of health-system specialty pharmacy services to other pediatric clinic settings to improve clinical continuity throughout the health system network

Impact on the Patient Experience

• This single-center retrospective and prospective review of medication adherence showed improved and sustained patient medication adherence following implementation of health-system specialty pharmacy services.

• The increase in utilization of OPS led to an increase in prescriptions received and filled by the health-system specialty pharmacy.

• Implementation of a clinic workflow designed to increase specialty pharmacy services in pediatric patients with CF was associated with improvements in MPR and PDC, indicating sustained medication adherence by patients.