Value of a dedicated CF Pharmacist

A prescription for success

David C. Young, Pharm.D.
Professor of Pharmacotherapy (Clinical)
University of Utah College of Pharmacy
Intermountain Cystic Fibrosis Adult Center Pharmacist

CFF Mission Statement

- is to cure cystic fibrosis and to provide all people with the disease the opportunity to lead full, productive lives by funding research and drug development, promoting individualized treatment, and ensuring access to high-quality, specialized care.

Cystic Fibrosis Foundation Strategic Plan, 2014-2018

Objectives

- Review the current national & international CF Care Standards with respect to the role of the pharmacist
- Describe the activities that pharmacists provide at US CFF-Accredited Care Centers
- Assess the role of pharmacist activities at CFF-accredited care centers in the U.S. from the CF Center Director’s view
- Characterize the impact of the pharmacists’ activities that are performed
CF Pharmacist

- CF Trust Standards for Clinical Care state the pharmacist is considered a primary member of the multidisciplinary CF care team
  - Outpatients should have access to the CF specialist pharmacist each visit
  - Inpatients should be reviewed by the CF specialist pharmacist on a daily basis during the week & on call during weekends
- CF pharmacists’ must:
  - Be registered with Royal Pharmaceutical Society of Britain
  - Be a member of the Cystic Fibrosis Pharmacists Group
  - Maintain continued professional development

Cystic Fibrosis Trust, 2011
Cox, C. Bevan, A. Cystic Fibrosis Trust, 2011

CF Pharmacist

- CF Trust Pharmacist’s role to provide:
  - Prescription monitoring & review.
  - Education & counseling.
  - Full annual medication review.
  - On call pharmacy services.
  - Formulary management services.
  - Assistance in clinical guideline & treatment protocol development
  - Education & training to other healthcare professionals

Cystic Fibrosis Trust, 2011
Cox, C. Bevan, A. Cystic Fibrosis Trust, 2011

CF Pharmacist

- CF Trust recommended FTE:

<table>
<thead>
<tr>
<th></th>
<th>75 pts</th>
<th>150 pts</th>
<th>250 pts</th>
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<tbody>
<tr>
<td>Pharmacist</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
</tr>
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</table>

Cystic Fibrosis Trust, 2011
Cox, C. Bevan, A. Cystic Fibrosis Trust, 2011
CF Pharmacist

- European Consensus Standards for Care state the pharmacist is considered a primary member of the multi-disciplinary CF care team


CF Pharmacist

- Pharmacist’s role to advise on:
  - drug dosing & drug-drug interactions.
  - prescription monitoring & review.
  - pharmacokinetic data interpretation.

- Pharmacist’s role to provide:
  - patient education & counseling.


CF Pharmacist

- European Consensus Standards for Care recommended FTE:

<table>
<thead>
<tr>
<th></th>
<th>50 pts</th>
<th>100 pts</th>
<th>150 pts</th>
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</thead>
<tbody>
<tr>
<td>Pharmacist</td>
<td>0.3</td>
<td>0.6</td>
<td>1.2</td>
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</table>

CF Pharmacist

- CF Standards of Care, Australia state the pharmacist is considered a primary member of the multi-disciplinary CF care team

Bell, S.C., et al., Cystic Fibrosis Australia, 2008

CF Pharmacist

- Pharmacist’s role to provide:
  - assessment of pharmaceutical aspects of therapy at the point of prescribing.
  - assessment of drug dosing, drug-drug interactions, drug allergies, adverse drug reactions.
  - education of patients & CF team members.

Bell, S.C., et al., Cystic Fibrosis Australia, 2008

CF Pharmacist

- CF Standards of Care, Australia recommended FTE:

<table>
<thead>
<tr>
<th></th>
<th>50-75 pts</th>
<th>75-150 pts</th>
<th>&gt;150 pts</th>
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</thead>
<tbody>
<tr>
<td>Pharmacist</td>
<td>0.5</td>
<td>1</td>
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Bell, S.C., et al., Cystic Fibrosis Australia, 2008
CF Pharmacist

- The role of the pharmacist in US CFF-guidelines
  - Not addressed
  - Recommended FTE:
    - ?


CF Pharmacist

- Benefits of a dedicated CF Pharmacist
  - discharge medication availability time reduced by 84%
  - improvement in communication between secondary and primary care
  - reduction in medication errors
  - improvement optimization drug therapy
  - medication cost-savings
  - improved tobramycin monitoring
  - cost savings in central intravenous additives audit


CF Pharmacist

- Benefits of a dedicated CF Pharmacist & Pharmacy Technician
  - 52% of adult patients were unable to access ≥1 medication prescribed by their CF provider
  - 98% of these patients were able to access their prescribed medication(s) via pharmacist & pharmacy technician as CF team members

Two surveys conducted by CFF in 2013 to determine role of pharmacists in CF care:

- A survey of pharmacists providing care at US CFF-accredited centers
- A survey of the pharmacist’s role at US CFF-accredited care centers


Primary objective

- Quantify the pharmacist activities at CFF-accredited care centers in the U.S.

Results

- 61% (42/69) of pharmacists completed the survey
- 54% (27/50) states represented

A survey of pharmacists providing care at US CFF-accredited centers

<table>
<thead>
<tr>
<th>Clinical duty</th>
<th>&gt; daily (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure safe, appropriate, cost effective therapy</td>
<td>57.5</td>
</tr>
<tr>
<td>Attend multidisciplinary rounds</td>
<td>53.8</td>
</tr>
<tr>
<td>Monitor for adverse medication reactions</td>
<td>51.3</td>
</tr>
<tr>
<td>Advise on CF medication therapy</td>
<td>50.0</td>
</tr>
<tr>
<td>Provide drug information to health care providers</td>
<td>45.0</td>
</tr>
<tr>
<td>Advise on non-CF medication therapy</td>
<td>40.0</td>
</tr>
<tr>
<td>Provide drug information and/or counseling to patients and/or caregivers</td>
<td>37.5</td>
</tr>
<tr>
<td>Serve as liaison between CF clinic team and community/hospital pharmacists</td>
<td>30%</td>
</tr>
</tbody>
</table>


A survey of pharmacists providing care at US CFF-accredited centers

Hours/week providing care for CF patients

![Bar chart](chart1.png)


A Survey of the Pharmacists Provided Care at U.S. CFF-accredited Centers

- Results
  - 30% (12/40) of respondents are provided funding for their services by their CFF-Accredited Care Center

![Bar chart](chart2.png)

A survey of the pharmacist's role at U.S. CFF-accredited centers

Objectives:
- Assess the role of pharmacist activities at CFF-accredited centers from the center director's view
- Characterize the importance of pharmacist's activities that are performed
- Identify potential areas of improvement


A survey of the pharmacist's role at U.S. CFF-accredited centers

Results
- 40.6% (106/261) of Center Directors completed the survey
- 80% (40/50) states represented


A survey of the pharmacist's role at U.S. CFF-accredited centers

Core Team Members

Are pharmacists involved in the care of your CF patients?

<table>
<thead>
<tr>
<th>Response - Yes</th>
<th>Dedicated to CF</th>
<th>Location of Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.6% (92/105)</td>
<td>Yes 66.3% (61/92)</td>
<td>Inpatient Only 30.6% (30/92)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outpatient Only 3.1% (3/92)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Both 61.3% (58/92)</td>
</tr>
</tbody>
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A survey of the pharmacist’s role at U.S. CFF-accredited centers

- 58% (61/105) of centers have a dedicated CF pharmacist
- 100% (44/44) of centers that do not have a dedicated CF pharmacist believe one would add value to the multidisciplinary team
- 13 centers had no pharmacy involvement
  - 100% of these centers would like pharmacists to:
    - Provide drug info and/or medication counseling for pts and/or caregivers


A survey of the pharmacist’s role at U.S. CFF-accredited centers

Top 3 Barriers To Having Dedicated CF Pharmacist

- Financial Constraints
- Lack of Institutional Admin Support
- Lack of Pharmacy Admin Support

Contributions of CF Pharmacists (2010-2015)

- N=28
- CF-related oral presentations:
  - 206 (ranging from local to international conferences)
- CF-related educational presentations:
  - 943 (ranging from physicians to social workers)
- CF-related abstracts/posters presented:
  - 175 (ranging from local to international conferences)

Contributions of CF Pharmacists (2010-2015)

- N=28
- CF-related posters/abstracts contributed as 1st author: 65
- CF-related posters/abstracts contributed as co-investigators: 76
- CF-related publications:
  - 30: 1st author
  - 30: co-author
  - 17: senior author

Contributions of CF Pharmacists (2010-2015)

- N=28
- CF-related quality improvement projects:
  - Project leader: 69
  - Project collaborator: 63
- CF-related research projects:
  - Primary investigator: 75
  - Co-investigator: 97
- Service on CF-related committees:
  - 35 (local to international)
One small step for pharmacists…One giant leap for CF Patient Care

- CF Pharmacist 101 Document
  - Created 3/2014
- CF Pharmacist Mentorship Program
  - 1st mentorship visits in 8/2014
- CFF Pharmacist Listserv
  - Created 5/2013
  - Currently 156 members
- CFF Pharmacist 101 Webinar
  - Currently under development.
  - Anticipated release date 6/2015

Collaborative Multi-centered CF Pharmacist Research Projects

- Antibiotic Utilization during APE
- ABPA in CF
  - Completed 2014; Abstract submitted 5/2015
- Vancomycin optimization in CF
  - In progress
- Medication Adherence in CF
  - In progress
- Medication Reconciliation in CF
  - In progress
- Impact of Specialty Pharmacy Services in CF
  - In progress

Current Pharmacotherapy for CF patients is complex

- Chronic medications
  - Appropriateness, Dosage, Monitoring, Drug Interactions, Cost effectiveness, Access, & Adherence
- Acute Pulmonary Exacerbations
  - Highly individualized drug therapy dosages & monitoring
- Hard to treat infections (i.e. NTM, ABPA)
  - Highly individualized drug therapy dosages & monitoring
**Conclusions**

- Pharmacists & Pharmacy technicians contribute to the care for CF patients at US CFF-Accredited Care Centers in a plethora of ways
  - High quality-individualized patient care, Education, Research, Quality improvement (i.e. Adherence), & Collaboration
  - Only 58.1% of US CFF-Accredited Care Centers have a dedicated CF pharmacist
  - 100% US CFF-Accredited Care Centers who do not have dedicated CF pharmacist want one
  - Financial & administrative barriers are significant