Using the Cystic Fibrosis Patient Registry to Support Clinical Trials Planning and Set-up

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Disclaimer

The views and opinions expressed in this presentation are those of the individual presenter and do not necessarily reflect the views of the Clinical Trials Transformation Initiative.

The presenter is an employee of the Cystic Fibrosis Foundation. To advance drug development and a search for a cure, Cystic Fibrosis Foundation has contractual agreements with several companies to receive royalties related to drugs that are developed as a result of CFF funding. Any royalties we receive are used in support of our mission.
Cystic Fibrosis

- Rare Disease: about 35,000 people in the US
- Caused by mutations in the CFTR gene

<table>
<thead>
<tr>
<th>Prevalence</th>
<th># of mutations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+%</td>
<td>1</td>
</tr>
<tr>
<td>1 - &lt;5%</td>
<td>10</td>
</tr>
<tr>
<td>&lt;1%</td>
<td>~2000</td>
</tr>
</tbody>
</table>

- Diagnosed early in life: universal newborn screening since 2010
- Current life expectancy at birth ~44 years
- Treatment regimen: 2 – 3 hours per day
CF Foundation Care Network

- CF Foundation accredits care centers throughout the United States
- Care Centers are comprised of: pediatric, adult and affiliate care programs
- Participation in the registry is a requirement of accreditation
Data Collected in the CFFPR

Inclusion criteria
- Clinical diagnosis of CF
- Seen at care center
- Consent to participate

Data collected at:
- Diagnosis
- Clinic Visits
- Hospitalizations / Home
- IV treatments
- Annually

See the Annual Data Report for a full list of the data collected by the CF Foundation Patient Registry:
www.cff.org/Resources/researcher-resources/Patient-Registry/CTI-Patient-Registry-Reports
Current Status of the Registry

PATIENT REGISTRY BY THE NUMBERS

282 CF care programs
29,887 People in the Registry
129,542 Clinic visits
22,535 Hospitalizations
Therapeutics Development Network

- Subset of the CF Foundation Care Network
- Conduct industry and non-industry funded studies
- Currently, about 30 studies in progress
Site Selection

- CFTR modulators – treat underlying disease, indication is based on CFTR mutation

- First CFTR modulator needed to be tested among people with the G551D mutation, found in ~4% of the population.
## Clinical Trials in CFSmartReports

### Solicitations
- Studies that are soliciting programs to participate
- Studies that have selected programs and are enrolling participants
- Studies that are referring patients to enrolling programs

### Table: Clinical Trials in CFSmartReports

<table>
<thead>
<tr>
<th>Trial Name</th>
<th>Sponsor</th>
<th>Study Phase</th>
<th>Status</th>
<th>Study Type</th>
<th>Intervention Type</th>
<th>Intervention Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laurent Phase 2 APPLAUD</td>
<td></td>
<td>2</td>
<td>Protocol Reviewed</td>
<td>Interventional</td>
<td>Anti-Inflammatory</td>
<td>Potentially eligible Patients</td>
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<tr>
<td>Novartis QBW276 Cohorts 1 and 2</td>
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<td>2</td>
<td>Protocol Reviewed</td>
<td>Interventional</td>
<td>Mucociliary Clearance</td>
<td>Potentially eligible Patients</td>
</tr>
<tr>
<td>Novartis QBW276 Cohort 3</td>
<td></td>
<td>2</td>
<td>Protocol Reviewed</td>
<td>Interventional</td>
<td>Mucociliary Clearance</td>
<td>Potentially eligible Patients</td>
</tr>
</tbody>
</table>
### List of Potentially Eligible Patients

**Study:** VX-659-103 DF508 Homozygous  
**Sponsor:** Vertex  
**Study Phase:** 3  
**Study Type:** Interventional  
**Intervention Type:** Restore CFTR Function  
**Status:**  
**Date query deployed:** 2/22/2018  
**Program Number:** 9002  
**Protocol Reviewed:**  

<table>
<thead>
<tr>
<th>Name</th>
<th>Reviewed</th>
<th>CFF ID</th>
<th>Current Age</th>
<th>Mutation 1</th>
<th>Mutation 2</th>
<th>Last FEV1 % Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mugwort, Haloeve</td>
<td>Not Reviewed</td>
<td>9928936</td>
<td>14</td>
<td>F508del</td>
<td>F508del</td>
<td>52.4</td>
</tr>
<tr>
<td>Thejor, Lusha</td>
<td>Not Reviewed</td>
<td>9900004</td>
<td>25</td>
<td>F508del</td>
<td>F508del</td>
<td>51.1</td>
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<tr>
<td>Sylmaris, Sharian</td>
<td>Not Reviewed</td>
<td>9928923</td>
<td>32</td>
<td>F508del</td>
<td>F508del</td>
<td>05/</td>
</tr>
<tr>
<td>Paceran, Skongririka</td>
<td>Not Reviewed</td>
<td>9900043</td>
<td>45</td>
<td>F508del</td>
<td>F508del</td>
<td>41.9</td>
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<tr>
<td>Phipetor, Taylor</td>
<td>Not Reviewed</td>
<td>9900025</td>
<td>39</td>
<td>F508del</td>
<td>F508del</td>
<td>05/</td>
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<tr>
<td>Hopesinger, Ygraine</td>
<td>Not Reviewed</td>
<td>9900010</td>
<td>28</td>
<td>F508del</td>
<td>F508del</td>
<td>63.0</td>
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<td>Chaosarmour, Ghilanna</td>
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<td>14</td>
<td>F508del</td>
<td>F508del</td>
<td>72.9</td>
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<td>Presberos, Ceufroy</td>
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<td>9928913</td>
<td>29</td>
<td>F508del</td>
<td>F508del</td>
<td>02/</td>
</tr>
</tbody>
</table>

**Number of Potentially Eligible Patients:** 8

**List can be exported to Excel**

- Clicking the patient's name shows a report with their clinical data over the past 2 years.
Developing Inclusion Criteria

- Outcome of interest – lung function decline
- Which patients have the highest risk of outcome?
Increasing study efficiency

FDA mandated study of rare adverse event among individuals taking pancreatic enzyme replacement therapy.

**Base Population:**
- Patients enrolled in CFF Patient Registry with CF diagnosis;
- Treated at IRB approved site; and
- Had a regular clinic visit after IRB approval AND before the end of the two year enrollment period

**Numerator Population:**
- Patients that meet the criteria for the base population;
- Patients that meet the inclusion/exclusion criteria for suspected fibrosing colonopathy;
- Patient provided study specific informed consent to release medical information for independent, blinded adjudication committee

**10 Year Surveillance for Suspected Fibrosing Colonopathy**

- **2-year enrollment**
- **8 years of additional surveillance**

**PERT Exposure Data Supplied from CFF Patient Registry**

**Numerator Case Data From Separate Case Report Form NOT Present in CFF Registry, but Needed for Adjudication**
From research question...

### Duration of Pulmonary Exacerbation Treatment in Days, by Center

<table>
<thead>
<tr>
<th>Study Description</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
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<tbody>
<tr>
<td>Median Total Duration of IV Antibiotic Treatment for a Pulmonary Exacerbation in Individuals Less than 18 Years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.0</td>
<td>5.0</td>
<td>17.3</td>
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<tr>
<td>Median Duration of Hospital Stay for Treatment of a Pulmonary Exacerbation in Individuals Less than 18 Years</td>
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<td></td>
<td></td>
<td></td>
<td>10.0</td>
<td>4.0</td>
<td>16.8</td>
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<tr>
<td>Median Total Duration of IV Antibiotic Treatment for a Pulmonary Exacerbation in Individuals 18 Years and Older</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.4</td>
<td>6.0</td>
<td>22.0</td>
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<tr>
<td>Median Duration of Hospital Stay for Treatment of a Pulmonary Exacerbation in Individuals 18 Years and Older</td>
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<td></td>
<td></td>
<td></td>
<td>8.5</td>
<td>4.0</td>
<td>17.3</td>
</tr>
</tbody>
</table>
To implementation
Strengths and Limitations

**Strengths**
- Comprehensive (people and data)
- Contains clinical data
- Longitudinal

**Limitations**
- Timeliness
- Difference in variable definitions
- Not generalizable to other diseases
THANK YOU.

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www.ctti-clinicaltrials.org