



Program Name: LEAPP CF: Leadership and Education Advanced Practice Provider Fellowship Program in CF

Brief Program Overview/Description: CFF recognizes the growing demand to recruit and retain Advanced Practice Providers (APPs) trained to address the complex needs of a growing and aging cystic fibrosis (CF) population. APPs are highly effective practitioners who fulfill an array of roles in CF Centers including the provision of clinical care, leadership in QI, research, and newborn screening. Committed to maintaining a strong CF provider workforce, the CFF will recruit a cohort of APPs to the new LEAPP CF Fellowship program to expand the number of CF providers in outpatient pediatric and adult care programs.

Funding Amount: Awards will be approved for a two (2) year period. Funding of up to \$75,000* in Year 1, and up to \$65,000 in Year 2 may be requested, plus up to an additional twelve percent (12%) of indirect costs may be requested per year.

**Optional funding of up to \$10,000, in Year 1 only, may be requested for Salary and Benefits to support a portion of the clinical mentor's time.*

Eligibility:

- Candidates must be U.S. citizens, permanent residents, or non-residents working in a U.S.-based institution.
- Applicants must have completed Nurse Practitioner or Physician Assistant training and passed certifying exam.
- Applicants must be employed and fully credentialed their institution.
- New APPs should be practicing in a CF program with 2 to 36 months experience at the time of application submission.
- Experienced APPs not currently involved in CF care and those primarily focused on inpatient CF care are also eligible to apply if their home institution has immediate career opportunities in the CF outpatient clinic.

Key Dates:

Published	October 30, 2020
LOI Submission Deadline	N/A
LOI Applicant Notified	N/A
Pre-Registration Deadline	December 30, 2020
Full Application Deadline	January 13, 2021
Committee Review Date	February 12, 2021
Notification to Applicants	March 2021
Project Start Date	June 1, 2021

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COVID Impacts on Care

The CFF understands that applicants may be affected by factors associated with the COVID-19 pandemic. The project period for approved applications is set as June 1, 2021 – May 31, 2023. In the event of a COVID related furlough and the nature of this program, applicants would not be able to request a delayed start date.

For any additional questions, please contact the CFF Grants and Contracts Office (grants@cff.org)

I. About the Cystic Fibrosis Foundation

The mission of the Cystic Fibrosis Foundation is to cure cystic fibrosis and to provide all people with CF the opportunity to lead long, fulfilling lives by funding research and drug development, partnering with the CF community, and advancing high-quality, specialized care.

To achieve this mission, various types of grants and awards are offered to support meritorious research in CF.”

II. Program and Award Overview

CFF recognizes the growing demand to recruit and retain Advanced Practice Providers (APPs) trained to address the complex needs of a growing and aging cystic fibrosis (CF) population. APPs are highly effective practitioners who fulfill an array of roles in CF Centers including the provision of clinical care, leadership in QI, research, and newborn screening. Committed to maintaining a strong CF provider workforce, the CFF will recruit a cohort of APPs to the new LEAPP CF Fellowship program to expand the number of CF providers in outpatient pediatric and adult care programs.

APPs selected into this CF Fellowship will spend the time as follows:

- the first 18 months will focus on learning about cystic fibrosis including pathophysiology, genetics and clinical care for children and adults with CF
 - instruction will occur through online modules, assigned reading and semimonthly webinars consisting of didactics, discussions, and case presentations
 - this will be paired with clinical training provided by a local clinical mentor (experienced CF physician or APP) and an APP mentor at another CF center for the purpose of broadening professional CF APP network and promoting cross-center learning
- the last 6 months will focus on learning and applying the principles of quality improvement and on enhancing leadership skills
 - instructional format will include webinars and facilitated discussions on assigned readings and reference material
 - APPs will be expected to complete a small quality improvement project in the context of this segment of the program

The expectations for the LEAPP program are that awardees devote 0.3 FTE (12/wk) with a minimum of four (4) hours for clinical training and four (4) hours for webinars and self-directed learning per week over the two (2) year period.

III. Funding Amounts

The CFF releases this Request for Applications (RFA) to APPs interested in developing expertise in the care of individuals with CF. CFF will award up to \$75,000* in Year 1 and up to \$65,000 in Year 2 of direct costs over the two (2) year period. Please note that these totals are inclusive of all direct costs, including salary & benefits, travel, and registration fees. Salary and Benefits for the applicant must be at 0.3 FTE per year. Travel and registration expenses of up to \$2,000 per year may be requested by the applicant to attend the annual North American CF Conference (NACFC). An additional twelve percent (12%) of

indirect costs may be requested per year.

**Optional funding of up to \$10,000, in Year 1 only, may be requested for Salary and Benefits to support a portion of the clinical mentor's time.*

***Note:** Salaries should be in compliance with institutional guidelines and can be supplemented by the Grantee Institution.*

IV. Eligibility

- Candidates must be U.S. citizens, permanent residents, or non-residents working in a U.S.-based institution.
- Applicants must have completed Nurse Practitioner or Physician Assistant training and passed certifying exam.
- Applicants must be employed and fully credentialed their institution.
- New APPs should be practicing in a CF program with 2 to 36 months experience at the time of application submission.
- Experienced APPs not currently involved in CF care and those primarily focused on inpatient CF care are also eligible to apply if their home institution has immediate career opportunities in the CF outpatient clinic.

APPs are eligible to apply based on the following criteria:

- Completed Nurse Practitioner or Physician Assistant training and passed certifying exam.
- At the time of application, employed in good standing and fully credentialed at their home institution. New APPs should be practicing in a CF program and have 2 to 36 months experience at the time of application submission. Experienced APPs not currently involved in CF care and those primarily focused on inpatient CF care are also eligible to apply if their home institution has immediate career opportunities in the CF outpatient clinic.
- Evidence of institutional support to give APP protected time to participate in scheduled Fellowship webinars, self-directed learning and complete Fellowship activities.
- A letter of support from the CF Care Center Director, the local mentor, and a letter of support from the Institution are required with the application.
 - The letter of support from the CF Care Center Director or Affiliate Director must include the signature from the Division Chief. The letter should describe the following:
 - the structure of the CF clinic,
 - how the LEAPP CF Fellow will be integrated into the team,
 - a commitment to clinical mentoring for the applicant including the name of the clinical mentor (note this can be the CF center or program director)
 - commitment to protecting the APP's time to participate in program activities including at least four (4) hours for direct CF care per week, semimonthly webinars, at least four (4) hours per week for self-directed learning, participation in local CF Center teaching activities, care conferences, quality improvement activities, and any other mentoring activities along with attendance at NACFC.
 - The letter of support from the local mentor must affirm their commitment to clinical mentoring of the LEAPP CF Fellowship applicant.
 - attach a high-level outline of the mentoring plan for the applicant's clinical training in the care of individuals with CF as well as inclusion in local CF Center teaching activities, care conferences, and quality improvement activities,
 - submit a CV.
 - The letter of support from the Institution must affirm the applicant's availability for the activities and meetings stated in this list. It must explicitly state the applicant's clinical responsibilities and guarantee the protected time.

The applicant must explicitly agree to the following:

- APPs must participate in at least 80% of semimonthly webinars.
- APPs must spend a minimum of four (4) hours per week in face to face outpatient care and four (4) hours for completing self-directed learning including online modules, readings, attending semimonthly webinars, reviewing and preparing for case presentations and a quality improvement project over the two-year period.
 - If your CF program's population cannot provide this level exposure, **in the mentoring plan** please **indicate** the amount of time per week in outpatient CF care.
- Periodically attend clinic at either the pediatric or adult CF center, whichever is not the primary focus of their practice, to gain a strong understanding of the CF population.
- Commit to working with a clinical mentor at their institution and an experienced APP mentor at another CF center for peer mentoring and support.
- Attend NACFC annually including the LEAPP Fellowship meeting during this award period.
- Submit an annual progress report as outlined in the award letter.

V. Mentorship Requirements

- Each applicant along with their center director must identify a local primary Mentor with substantial experience in CF clinical care.
- The Mentor(s) must be able to provide the mentorship needed to guide the training if awarded.
- The Mentor(s) must be at the institution where the applicant will be training.

VI. Goals of Research Currently of Interest to CFF/Priority Areas

Not applicable to this RFA.

VII. Review and Award

The LEAPP CF Review Committee will evaluate all applications and make recommendations to CFF and the Board of Trustees for final approval and funding. CFF considers the availability of funds, the priority score awarded to each application, and the committee recommendations when determining awards.

Selection criteria is based on the following:

- The applicant's interest in CF
- The commitment of the CF Center Director and Division Chief to support the training of the applicant in the CF clinic/program including the mentoring plan
- The Institution's commitment to support and protect the time of the APP Fellow.
- The commitment of the local mentor including their CV **and the submission of a high-level mentoring plan.**
- Consideration will be given to distribution by adult/pediatric specialties, geographic distribution and need

Chief causes for assigning low priority scores to applications during review include the following:

- Insufficient information or documentation
- Inadequate or absent documentation of the necessary skills, training and/or commitment to protected time
- Failure to meet all of the criteria described in this policies and guidelines statement

VIII. Letter of Intent Guidelines

Not applicable to this RFA

IX. Submission Information

Applications deadline: Wednesday January 13, 2021 by 5:00 PM (Eastern)

Submit online through <http://awards.cff.org>

(Refer to Section X of these guidelines for specific submission instructions)

An application will be considered incomplete if it fails to comply with the instructions, or if the submitted material is insufficient to permit adequate review. CFF reviews applications electronically, and only documents submitted online at proposalCENTRAL will be reviewed.

General Timeline:

*Pre-Registration Deadline	December 30, 2020
Application Deadline	January 13, 2021
Committee Review Date	February 12, 2021
Notification to Applicants	March 2021
Start Date for Awarded Projects	June 1, 2021

*We highly encourage that you pre-register your profile, institution, contacts, and Title of your Application by this date. This will confirm that your submission at the Application Deadline, is without any system-related issue. It will also allow us to assist you on system-related queries, before the Application Deadline.

X. Full Application Guidelines

Applications must be submitted online at <http://awards.cff.org>

Documents should be typed using:

- Font: Times New Roman 12 or Arial 11
- Margins: No less than a half inch on each side

Note: *When all the documents have been uploaded to awards.cff.org, the system will compile them into a single PDF file. You may preview this file by selecting “Application Full Print”, as well as exporting the compiled PDF file.*

To login, please visit: <http://awards.cff.org>

First-time applicants must register to create a username and password for “awards.cff.org” and will need to complete a profile prior to submitting an application. If you are registered and cannot remember your password, click on the “**Forgot Password?**” link below the “**Login**” fields.

Once logged in, the award opportunities, including this Request for Applications (RFA), will be listed in the **Funding Opportunities** tab on the opening screen.

Locate the listing for the “**LEAPP CF: Advanced Practice Provider Fellowship Program**” program. Click on the “Apply” button in the column on the far right to open the application form.

Applicants may stop at any point but must click the “**Save**” button before exiting in order to save their progress.

The following sections are displayed as tabs across the application screen. Click on each section and

follow the directions. Click “Save” as you complete each section.

GENERAL

Enter the title of your project and select “No” to indicate that this is not a resubmission. The project start, and end dates are set for two (2) years from June 1, 2021 to May 31, 2023.

CONTACT PROFILE

If a profile was completed upon registration, the fields in this section will already be populated with the information entered in your Professional Profile. If you need to make any changes, you may update your profile in this section. Once updated you must “Save and Validate” prior to returning to continue your submission.

INSTITUTION

If a profile was completed upon registration, the applicant’s/principal investigator’s institution will be preloaded as the Lead Institution. Domestic applicants must verify their institution by entering the Employer Identification Number (EIN) or Tax Identification Number (TIN) to search the system for the correct institution. If the EIN/TIN is not located, you may add the legal institution. Please also confirm if the project site is the same as the legal institution.

Verification of Applicant Institution’s Tax Status (upload as PDF documents):

The CFF Grants and Contracts Office must have a copy of the applicant institution’s current W-9 and 501(c)3 letter, or other documentation verifying its Federal tax status and will not issue Award Letters to Awardees if these documents are not received and on file.

- Applicants from for-profit organizations must submit a copy of the applicant institution’s W-9 and IRS documentation verifying the organization’s Federal tax status. Awards are not issued prior to having these documents on file with the CFF Grants and Contracts Office.

International Applicants (if applicable):

Not applicable to this RFA

CONTACTS

Please note: The INSTITUTION tab must be completed prior to adding internal contacts to ensure that the contacts are properly associated with the applicant institution.

Complete the required contact fields by searching by name for existing contacts at your institution for each role. If the desired institutional contact is not available in the system, you may select “Add Internal Contact” to create a basic contact profile in order to add the individual to your application. Additional optional contacts not associated with the applicant institution may also be added. These contacts would be considered as additional contributors involved in the proposed research plan. These may include consultants, collaborators, or subcontractors. If the desired external contact is not available in the system, you may select “Add External Contact” to create a basic contact profile in order to add the individual to your application.

REFERENCES

Letters of Support and/or Reference are weighted heavily in the review. At least four (4) letters are required as follows (refer to Section IV above for additional information):

- **CF Center Director or Affiliate Director (required)**
- **Division Chief or Institutional Leader (required)**
- **Clinical Mentor(s) for this award (required)**
- **Additional referee(s)** – A Letter of Reference from at least one (1) other individual familiar with the applicant’s clinical practice and motivation.

Letters of Reference must be submitted prior to submission of the application. To invite Referees, go to the “**REFERENCES**” tab of the online application, and first search for the referee using the lookup field. If the referee is not located in the system you may select “**Add Referee**” to create a basic contact profile in order to add the individual to the application. Once added, this will generate automated emails (with instructions) sent to each Referee. The applicant should inform Referees to submit the letters at least one (1) week prior to the application deadline. This helps to ensure that the letters have been uploaded before the application is submitted. Once the application has been submitted, no documents can be added.

Letters uploaded to <http://awards.cff.org> should not be password protected or otherwise encrypted. Such encryption will cause errors in assembling a single-print PDF of the application. The applicant should inform the individuals writing letters to not include password protection on their documents.

ASBTRACTS/RELEVANCE

Not applicable to this RFA. Please enter N/A in these sections.

BUDGET

Select the “**Edit Budget**” button under Application Budget, to enter and begin completion of the application’s budget detail for each year of funding being requested. Please refer to the Funding Levels table on Page 3 for allowable amounts. Indirect costs are not allowed.

Salary & Benefits - List the names, positions, and percent effort of all professional and non-professional personnel involved in the project, whether or not salaries are requested. For each individual, be sure to complete all fields on the Budget Detail in full on the template provided. In accordance with National Institutes of Health (NIH) policy, salary requests may not use an institutional base salary in excess of the current federal salary cap of **\$197,300**. Fringe benefits may be requested if they are treated consistently by the applicant institution as a direct cost to all funding agencies and foundations.

Travel - Describe the purpose of any CF-relevant travel. Please note: expenses for travel outside the North American Continent, including travel to Hawaii, Puerto Rico, and other U.S. territories are not allowable expenses without prior written approval from the CFF Grants and Contracts Office. **Travel and registration expenses may not exceed \$2,000 per person per year**. Registration fees associated with conferences are included as part of this allowance and should be listed under “Other Expenses”.

Other Expenses - Itemize expenses for any conference registration fees as part of the \$2,000 per year allowed amount for travel and registration.

Budget Detail – Indirect Costs

Indirect costs of up to twelve percent (12%) may be requested from CFF per year for this program.

FULL APPLICATION UPLOADS

In this section you will upload application materials as outlined below. Fields marked with an asterisk (*) are required in order to submit the application. Templates are available for download for the following items (documents must be uploaded in PDF format):

- Budget Justification
- Personal Statement
- Proposed Mentoring Plan

- Other Support

Budget Justification

Describe costs listed in the Budget Detail. Use major categories, such as Salary & Benefits, Consultant Costs, Major Equipment, etc. Justify all items and make sure amounts and figures listed in the narrative are consistent with those listed in the Budget Detail.

Personal Statement

Provide a brief description (not exceeding one page) of previous clinical training, especially in CF, and a summary of future career plans. This section should note previous and anticipated clinical activities in general and particularly those related to CF such as special training or clinics.

The personal statement should include descriptions of the following:

- Current clinical obligations, opportunity to see CF patients clinically, and involvement with the CF Center and how you see clinical care of patients with CF fitting into these obligations
- Career goals related to a long-term commitment to CF care

Proposed Mentoring Plan

This section should be completed in conjunction with the local clinical mentor. It should outline a high-level plan for mentoring the applicant in the general CF care of patients (not exceeding one page). Participation in local CF Center teaching activities, care conferences, quality improvement activities, attendance at the annual North American CF Conference and any other mentoring activities should be included.

Curriculum Vitae

Please provide two (2) CV's as part of this submission. One CV for the applicant and one CV for the clinical mentor. The following information should be included:

- Contact Information
- Work Experience
- Education
- Professional Skills

Other Support

Complete and upload an "Other Support" form, for all key project personnel, beginning with the Principal Investigator. There is no page limitation.

Appendices (upload materials as PDF documents, if applicable)

Appendices are restricted to the following category:

- Other pertinent materials or documentation that showcase the applicant's qualifications and commitment to CF care.

Validation and Submission

Prior to selecting "**Sign & Submit to AIO**", please complete a thorough review of the entire application. The "Sign & Submit to AIO" button will trigger validation on all required fields and identify any errors. Upon submission the ability to edit the application will be locked pending review and approval by your Authorized Institutional Official.

XI. Other Information

Please review the below attached documents (starting on page 10) which offer more background information regarding this program, as well as the work completed to inform the creation of this fellowship:

- LEAPP CF Fellowship Program Description
- Advance Practice Providers White Paper – Advance Practice Providers in Cystic Fibrosis: Recommendations to Ensure Optimum Practice

XII. Contact Information

For technical support and program/content information:

Primary CFF Grants and Contracts contact ewarnke@cff.org or 301-841-2614

Secondary CFF Grants and Contracts contact nmohaghegh@cff.org or 301-841-2614

For programmatic questions:

Cynthia George, MSN, FNP at cgeorge@cff.org

Leadership and Education for Advanced Practice Provider CF Fellowship Program (LEAPP CF)

BACKGROUND

For over 50 years, the CF Foundation (CFF) has worked to ensure that people with CF and their families benefit from high-quality specialized CF care with a multidisciplinary healthcare team. In recent years, many CF Centers have experienced challenges in maintaining the CF provider workforce due to the national shortage of pediatric and adult pulmonologists trained in CF care, and an increasing number of patients detected by newborn screening (NBS) and a growing adult CF population. While most CF centers are recruiting physicians, vacancies persist. Advanced Practice Providers, (APPs) or Nurse Practitioners (NPs) and Physician's Assistants (PAs) have been providing CF care and leadership for decades and are valued members of the CF care team. APPs provide excellent care; are well suited for chronic care and have the potential to fill this gap. Still, some APPs face barriers to practicing at the full scope of their licensure. One significant barrier is the length of time for APPs new to CF to gain knowledge and competency in clinical care of CF patients. To address this barrier a national CFF APP mentorship program was established which paired APPs across CF centers. This mentorship provided mostly professional networking and one observation visit to the mentor's CF center and thus, did not fully address the knowledge and clinical training needs for new APPs to CF.

Committed to training and maintaining a strong CF provider workforce, the CFF in 2018 convened a task force to evaluate the current provider workforce and make recommendations to address barriers to the full integration of APPs in CF care. Findings of this year-long evaluation indicated several opportunities to enhance support to APP practice in CF care including creating a CF core curriculum and establishing a postgraduate APP training program. Based on the results the task force the CF Foundation will be piloting the Leadership and Education for Advanced Practice Providers in CF Fellowship Program (LEAPP CF).

LEAPP CF Fellowship Program Description

Aim of the LEAPP CF Fellowship program: to recruit and retain Advanced Practice Providers in CF care by providing in-depth, structured post graduate education and training in CF and promote lifelong learning.

Length of the Fellowship: 24 months

Eligibility: this program is appropriate for early career APPs, currently practicing in a CF program, with 2 to 36 months. Experienced APPs not currently involved in CF care and those primarily focused on inpatient CF care are also eligible to apply if their home institution has immediate career opportunities in the CF outpatient clinic. All applicants must be employed and fully credentialed at their CF center at the time the program commences.

Competency Based Core Curriculum: core competencies outlined by the Accreditation Council for Graduate Medical Education (ACGME) and the National Organization of Nurse Practitioner Faculties

(NONPF) have been adapted as a framework for the LEAPP CF Fellowship competency driven core curriculum. The six core competencies are patient care, scientific knowledge, professionalism, communication, systems- based practice, and practice-based learning and quality improvement. Through in-depth structured learning and mentored clinical experience these competencies will serve as a guide in the clinical and professional development of the APP throughout this Fellowship and their career.

Proposed competency- based curriculum:

LEAPP Curriculum Primary Competency	Months 1- 6	Months 7-12	Months 13-18	Months 19 – 24
	<ul style="list-style-type: none"> • Patient Care • Scientific Knowledge • Communication • Intro to Systems Based Practice 	<ul style="list-style-type: none"> • Patient Care • Scientific Knowledge • Systems based Practice • Intro to Practice Based Learning/Quality Improvement 	<ul style="list-style-type: none"> • Patient Care • Scientific Knowledge • Systems based Practice 	<ul style="list-style-type: none"> • Systems based practice • Professionalism • practice based learning/ quality improvement • Communication
Ongoing Competency	Professionalism (off site professional mentor)	Communication Professionalism (off site professional mentor)	Communication Professionalism (off site professional mentor)	Patient Care Scientific Knowledge
Curriculum Focus	<ul style="list-style-type: none"> • Nut and Bolts • Guidelines based Curriculum • Pathophysiology, genetics • Partnerships for Care • diagnosis; NBS • monitoring • Imaging, labs, PFTs • CRMS/CFTR-RD 	<ul style="list-style-type: none"> • Guidelines based Curriculum: maintaining health • Nutrition • Infection • Exacerbations • Chronic Therapies • Modulator Therapy • Endocrine GI • Mental Health 	Guidelines based Curriculum: Advanced topics <ul style="list-style-type: none"> • Transition • Advanced Lung Disease • Management of Complications • CFRD, ABPA, NTM, • Transplant • Palliative Care 	<ul style="list-style-type: none"> • Learning and applying the principles of quality improvement • Leadership skills • Systems based multidisciplinary practice
Curriculum instructional format	<ul style="list-style-type: none"> • On site Mentored Clinical Practice • Online- modules and assigned reading • Semimonthly webinars consisting of didactics, discussions, and case presentations. • Fellow led case presentations 	<ul style="list-style-type: none"> • On site Mentored/Collaborative Clinical Practice • Online- modules and assigned reading • Semimonthly webinars consisting of didactics, discussions, and case presentations, Fellow led case presentations 	<ul style="list-style-type: none"> • On site mentor Collaborative/Independent Clinical Practice • Online- modules and assigned reading • Semimonthly webinars consisting of didactics, discussions, and case presentations • Fellow led a case presentation 	<ul style="list-style-type: none"> • On site Collaborative/Independent Clinical Practice • Monthly webinar • Assigned readings • Online-modules • QI training and coaching • Fellow Led quality improvement project and present at NACFC
NACFC	Attend NACFC Attend LEAPP Fellowship meeting		Attend NACFC Attend LEAPP Fellowship meeting	Attend NACFC Attend LEAPP Fellowship meeting/present at APP discipline session

Dedicated Mentorship: throughout the 24 months dedicated mentorship will be provided to the fellows to support clinical training and professional networking. Fellows will be paired with a clinical mentor at their institution (experienced CF physician or APP) who will support the clinical training during the first 18 months. Fellows will also be paired with an APP mentor from another CF center who will provide professional mentorship over the entire 24 months.

Clinical Training mentorship expectations:

- At least 4 hours per week outpatient CF care
- Periodically attend either the pediatric or adult CF center, whichever is not the primary focus of their practice.

Evaluation: assessment of programmatic elements along with competency self-assessments will be included

CONCLUSION

APPs play a crucial role in the care of CF patients. With the current workforce challenges, that role is likely to expand. In order to provide optimal care for the patients and a rewarding career for the APPS, this competency-based Fellowship will provide APPs new to CF a strong foundation of knowledge, decision making skills and clinical experience to develop competency for entry level independent practice in CF.

For more in-depth information about the work of the 2018 CFF Task Force, please refer to the attached document: Executive Summary: *Advanced Practice Providers in Cystic Fibrosis: Recommendations to Ensure Optimum Practice*.

Inquiries

For additional information, please contact Cynthia Brady, DNP, APRN, CPNP (brady@crccs.com), Jordan Dunitz, MD (dunit001@umn.edu), or Cynthia George, MSN, RN, FNP (cgeorge@cff.org).

Advance Practice Providers in Cystic Fibrosis: Recommendations to Ensure Optimum Practice

Executive Summary

January 4, 2019

APP Task Force

Co-Chairs: Cynthia Brady, DNP, APRN, CPNP¹; Jordan Dunitz, MD²

Members: Cynthia George, MSN, RN, FNP³; Gopal Allada, MD⁴; Debbie Benitez, MSN, RN, ACNP-BC⁵; Rebekah Brown, MD⁶; Lynne Fries, MPAS, PA-C, DPT, AE-C⁷; Barb Jansma, MSN, CRNP, PPCNP-BC⁸; Carlye Tomczyk, MSN, APRN, CNP⁹; Donna Beth Willey-Courand, MD¹⁰; Jana Yeley, MSN, FNP-BC¹¹

¹Children's Respiratory and Critical Care Specialists, Children's Hospitals and Clinics of Minnesota, Minneapolis, Minnesota

²Division of Pulmonary, Allergy, Critical Care Medicine and Sleep, University of Minnesota Cystic Fibrosis Center, Minneapolis, Minnesota

³Cystic Fibrosis Foundation, Bethesda, Maryland

⁴Division of Pulmonary and Critical Care Medicine, Oregon Health and Science University, Portland, Oregon

⁵Keck Medical Center of USC, Anton Yelchin Cystic Fibrosis Clinic, Los Angeles, California

⁶Division of Pediatric Pulmonology, Vanderbilt University Medical Center, Nashville, Tennessee

⁷Cystic Fibrosis Center of Western New York, Buffalo, New York

⁸The Children's Hospital of Philadelphia, Division of Pulmonary Medicine, Cystic Fibrosis Center, Philadelphia, Pennsylvania

⁹University of Minnesota Masonic Children's Hospital, University of Minnesota Cystic Fibrosis Center, Minneapolis, Minnesota

¹⁰University of Texas Health Science Center at San Antonio Pediatric Cystic Fibrosis Center, San Antonio, Texas

¹¹Indiana University Adult CF Center, Indianapolis, Indiana

Executive Summary

This executive summary highlights the CF provider shortage and the past, present, and future role of Advance Practice Providers (APPs) in CF care. The national physician shortage has affected access to CF care. While advances in CF treatment has given our patients a brighter future, many still face a lifelong complex chronic condition that requires specialized care. APPs are providing more clinical care and leadership in CF. Still some APPs face barriers to full scope of practice and both APPs and Program Directors (PDs) support the need for additional post graduate training. The recommendations in this summary are a vital part of the CFF mission *“to ensure that CF patients continue to have access to individualized treatments, and high-quality specialized care.”*

BACKGROUND

The national physician shortage, combined with the complex chronic nature of Cystic Fibrosis (CF), and the aging CF patient population has led to potential gaps in care for patients with CF. Many CF centers struggle to meet the demand for expanded services and access to care. Program directors (PD) and center physicians are often overextended and have numerous other responsibilities beyond CF. Most CF centers are recruiting physicians, but vacancies persist. Advanced Practice Providers, (APPs) or Nurse Practitioners (NPs) and Physician’s Assistants (PAs) have been providing CF care and leadership for decades and are valued members of the CF care team. APPs provide excellent care; are well suited for chronic care and have the potential to fill this gap. There are challenges to this solution. Most APPs in CF care are trained on the job and often desire more formal training and mentoring. In some CF centers, APPs are not permitted to practice at their full scope due to a poor understanding of the APP role, and persistent institutional or regulatory barriers.

METHODS

The CFF convened a task force to evaluate the current provider workforce and make recommendations to address barriers to the full integration of APPs in CF care including a potential need for CF postgraduate APP training. A literature review and scan of existing APP post graduate training programs was conducted as well as a survey of CF Center PDs, APPs, patients and families to determine the state of CF physician workforce, APPs workforce, scope of practice and training, and patient experience with APPs. Results of the pilot APP Mentoring Program were also reviewed.

RESULTS

Survey responses were received from 124 PDs, 107 APPs, 43 patients and 42 family members. More than half of centers (56%) were recruiting physicians and the majority (80%) of them were having difficulty. APP employment in CF centers has increased in the last 10 years (53%- 75%) and 90% of PDs plan to employ APPs in the future. Most APPs serve in some leadership capacity (63%). The ability to practice at the top of their scope (94%) and collaboration with physicians (92%) were among the most important factors for APP job satisfaction. Nevertheless, 35% of APPs reported that they do not practice at the top of their scope. Practice barriers included inadequate staffing/competing responsibilities (56%), poor understanding of APP role (43%), and PD/leadership delegation (29%). Data from the pilot APP Mentoring Program suggest the mentoring experience increased confidence and knowledge of the role and facilitate bi-directional learning between mentors and apprentices resulting in the implementation of new smart change ideas across the Centers for improvements in patient care. The current program, however, does not fully address the needs of novice/beginner APPs due to the brevity of the interaction and due to a shortage of mentors from adult CF centers, several new APPs in adult programs could not participate.

RECOMMENDATIONS

The task force recommends 3 initiatives to ensure a skilled, expanded APP workforce to provide high quality CF care and leadership in the future. 1.) Enhance PD/APP/CFF Partnerships to Support Full Scope of APP Practice; 2.) Create a CF core curriculum; 3.) Establish an APP CF post graduate training program.

Recommendation #1: Partnership

Support Full Scope of APP Practice

Thirty-five percent of APPs survey respondents are not practicing at the top of their scope. Ensuring all APPs in CF care practice at their full professional potential will maximize this existing resource. This recommendation requires partnership among all stakeholders in CF care (CFF, APPs, PDs, patients and families) to clarify and address the poor understanding of the APP role in some programs. Leadership and advocacy from CFF and PDs will be vital to realize the full capacity of the APP role. Patient and family education about the training of APPs and their role in CF could bridge gaps in understanding and improve overall comfort levels with CF care provided by APPs.

1. Further explore reasons why APP's are not practicing at full scope to inform additional strategies

- a. Schedule focus group with PD's and APP's
 - b. Survey specific to APP: determine which APPs are not at full scope and identify barriers
 - c. Survey PDs who have openings for MDs, regarding use of APPs, scope of practice and barriers.
 - d. Develop a benchmarking process to identify programs with APPs practicing at their optimal scope and describe their common characteristics.
2. Education on the APP role and scope of practice in CF centers
- a. Physician Education
 - i. Present information on the role and scope of practice for APPs at the (Friday) Pediatric, Adult and Affiliate Program Directors meeting at NACFC.
 - ii. Add a section about APPs to CFF.org in the "Your CF Care Team" section (<https://www.cff.org/Care/Your-CF-Care-Team/>)
 - iii. Train CFF Center Committee site visitors on the role and scope of practice for APPs that can be shared with PDs and administrators at programs that are understaffed for providers or underutilizing existing APPs. (This could be especially impactful combined with the training program described in recommendation #3).
 - iv. Develop Educational Material for Institutions about the role of the APPs
 - b. Patient Education
 - i. Develop information sheets for Centers on the role of APPs in CF care.
 - ii. Add a section about APPs to CFF.org in the "Your CF Care Team" section (<https://www.cff.org/Care/Your-CF-Care-Team/>)
 - iii. Distribute educational materials via Center listservs
3. Center Initiative
- a. Identify programs that would benefit from expanded APP scope during accreditation site visits or APP self-identification.
 - i. During accreditation site visits, include a brief meeting with APPs to review their role. Address concerns in the critique.
 - ii. During the NACFC APPs meeting, coach APPs on how to address scope of practice concerns with their PDs.
 - iii. Create communication/resource "mentoring hub" for APPs and PDs to receive mentoring re: full scope.

- iv. Develop a guide for PDs and APPS to assess and address institutional barriers to full scope of practice
- v. Support centers to optimize personnel and CFF grant allocations.
- vi. Lobbying at state and Federal levels to remove practice barriers

Recommendation #2: Education

Create a competency driven core CF curriculum

This recommendation leverages the many excellent educational resources that have been developed by content experts in CF care. We envision the creation of a central repository for new and existing CF content which could be accessible in a standardized format for all CF providers. The CFF would bring together existing content, ensure that it is updated and current, and includes evaluation of learning content. Not only would it serve as the curriculum for post graduate CF APP training, but would be accessible for residents, fellows and other clinicians to improve their knowledge in a specific topic area of CF. A commercial CME vendor would be needed to house, format and maintain the curriculum. Another option is to create a content training similar to the DIGEST and ENVISION Programs sponsored by CFF.

1. Key elements:

- a. Financially supported by CFF
- b. Accessible to all CF Providers
- c. Web-based
- d. Learning modules, webinars
 - i. Current CF specific educational programs exist in several formats that include webinars and online didactic modules that promote group learning, peer mentorship, networking and sense of community. New topics would be developed by content experts to fill gaps in existing material to provide comprehensive CF education. Examples of potential topics for the didactic sessions include:
 - 1. Basic pathophysiology of CF
 - 2. Clinical manifestations of CF
 - 3. Airway clearance and inhaled therapies
 - 4. Management of Infection
 - 5. Pulmonary exacerbations
 - 6. CFTR modulator therapy
 - 7. GI disease and therapies

8. CF related liver disease
 9. CF related diabetes
 10. Lung transplant
 11. Palliative care
 12. Diagnosis of CF
 13. CRMS and CFTR-related disorder
 14. Newborn screening
 15. Later diagnoses—special considerations and detection of clinical signs/symptoms of CF.
- e. Learning evaluation/post -tests
 - f. Updated Content as sessions repeat in the future
 - g. Continuing education credits/Accreditation by CFF
 - h. Case Conferences As the mentored program progresses, presentations may be given by the APPs in the program. For example, interesting or confusing cases followed by lessons learned from those cases. These presentations would be developed with PD or other MD/DO supervision.

Recommendation #3: Mentorship: *Pathways to competency*

Establish APP Post Graduate Fellowship Program: Pediatric / Adult

This recommendation builds on the existing CFF APP post graduate mentorship program. The goal is to provide CF specific, post graduate training for APPs and reduce the time it takes to become a Competent CF Provider. Upon completion, the trainee would be ready to independently take on significant clinical and administrative roles in a CF center. While competency implies readiness for entry level independent practice, ongoing professional development through evidenced based clinical practice, decision making experience, teamwork and leadership, leads to proficient and expert APPs.

Training of APP CF providers should be patterned after current standards in medical education. Namely, adapting Accreditation Council for Graduate Medical Education (ACGME) core competencies and Entrustable Professional Activities (EPAs) as guidelines for a PD to assess APP performance not only during a specified training period, but throughout the providers' careers.

The committee's vision is evolving and recognizes that APP post-graduate training may vary by the trainee's core competencies and the center's needs. Figure 1 illustrates several possible "paths" to competency. An

overview of each path is provided below, with additional details in Table 1. These suggestions illustrate the potential applications of the CF curriculum. Training grants should be considered to support these paths.

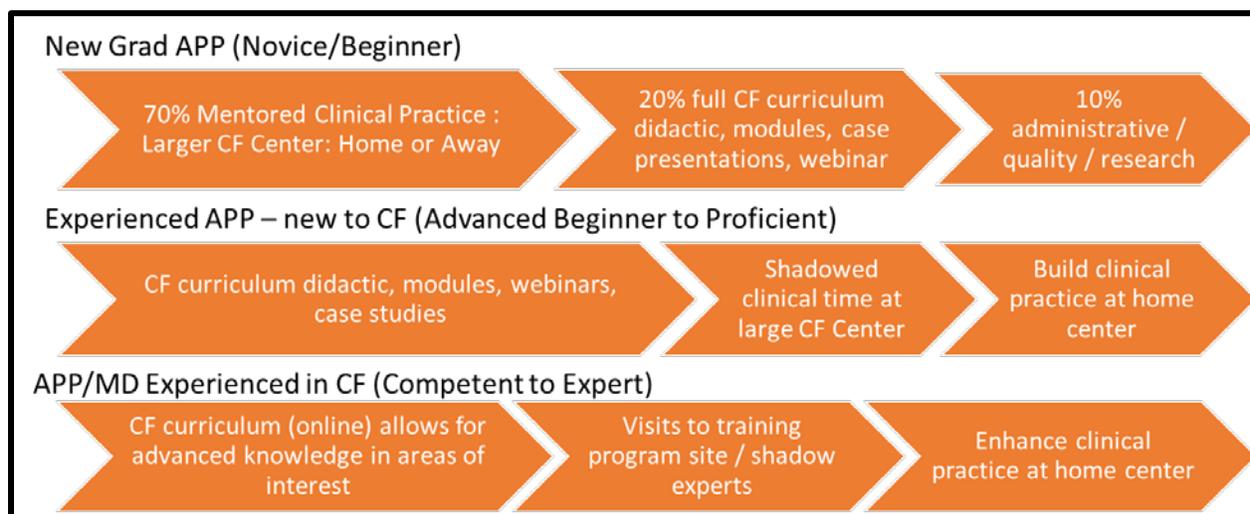


Figure 1. Overview of Paths to Competency

Path A - New Grad APP: Novice or Beginner

This path provides CF specific post graduate training for new graduate APPs and accelerates the time from a Novice to Competent Independent CF Provider. This path will require the most resources, dedicated mentorship time and largest financial investment. Those centers who do not have the resources to train someone would send a trainee to another center.

Path B - Experienced APP New to CF: Advanced Beginner to Competent

This path is best suited for the experienced APP who is an advanced beginner or competent APP, but new to CF. CF competency is achieved through clinical mentoring and CF curriculum in a concentrated time period.

Path C - Experienced APP/MD: Competent to Proficient

This path is best suited for an experienced, competent CF provider (MD, APP, RN, PharmD, LSW, RD, etc.) who desires to gain proficiency in a specific area of CF care.

Table 1. Components of each path to competency

Paths to Competency	Path A: New Grad APP (novice / beginner)	Path B: Experienced APP New to CF (advanced beginner to competent)	Path C: Experienced APP/MD (competent to proficient)
Time Frame	6- 12 months	3-12 months	Varies
Funding	Cost sharing between CF center / institution and a CFF award	Cost Sharing between CF center/institution and a CFF award	Cost Sharing between CF center/institution and a CFF award
Responsible Party	Program Director (PD)	PD or Mentor	Mentor
Clinical Practice	Mentored by a seasoned APP or MD at home center if resources exist OR Attend a designated APP training center	Mentored by a seasoned APP or MD at home center if resources exist OR Attend a designated APP training center	Mentored by a seasoned APP or MD at home center if resources exist OR Attend a designated APP training center. Shadowed clinical practice in specific area of CF care such as CFRD, transplant
Curriculum learning	Online modules, live didactics, case presentations, webinars	Online modules, live didactics, case presentations, webinars	Online modules, live didactics, case presentations, webinars
Leadership / administrative component	Leadership/quality and research topics	Optional	Optional

APP Training Institutions

Specific requirements for a training center are outlined in Table 2. If the hiring institution meets the requirements, the training can be done at the hiring institution. If not, the training would be done at a designated APP training institution. Training would be either pediatric or adult specific

Table 2. Requirements for APP Training Institutions

	Training Institution
Responsible Party	Program Director (PD)
Training Faculty	Minimum of 2 physicians actively involved in CF care, one of whom has at least 5 years of experience Minimum of 1 APP actively involved in CF care with at least 3 years of experience
General Operations	Clinic held at least 2 days/week Can provide inpatient and outpatient exposure

	Institutional expertise in at least 1 CF subspecialty (endocrine, GI, ENT) in addition to pulmonary	
Patient Population	FOR PEDIATRICS: <ul style="list-style-type: none"> • ≥ 125 patients • 1 – 18 years old • ≥ 3 newborn diagnoses in past year • Newborn program • Formal transition program • Full multidisciplinary team • Active CQI program 	FOR ADULTS: <ul style="list-style-type: none"> • ≥ 150 patients • 18 - 50 years old • ≥ 5 transitions in past year • Full multidisciplinary team • Active CQI program
Additional Recommendations	Corresponding program (Adult exposure for pediatric APP, pediatric exposure for adult APP) Adult APP lung transplant exposure	

CONCLUSION

APPS play a crucial role in the care of CF patients. With the current workforce challenges, that role is likely to expand. In order to provide optimal care for the patients and a rewarding career for the APPS, it is vital that they receive appropriate training and are permitted to work at the full scope of their licensure. Continued efforts to understand the challenges, a deliberate effort to help physicians and patients understand the role of APPs and a competency-based training program for APPs will help us reach those goals.

Inquiries

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