Implementing Asthma Collaborative Practice Agreement with the University of Mississippi Telehealth Program

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Executive Summary

The medication therapy management service for the Asthma Management Program aims to reduce the symptoms and severity of uncontrolled asthma patients across the state of Mississippi by providing virtual medication recommendations, patient counseling and education. Our goal is to allow pharmacists to collaborate with physicians to manage chronic uncontrolled asthma to improve patient adherence, continue to build trust and relationships among an interdisciplinary team, and maintain a financially stable plan for collaboration of pharmacists, physicians, and nurses within the remote patient management program.

Currently, telemedicine has improved several patients' accessibility to resources for chronic health conditions, such as diabetes, hypertension, anticoagulation, and more. Pharmacists are one of the most easily accessible providers in healthcare. They are available to provide patient counseling for new prescribed medications and vaccinations; discuss drug therapy safety, identify, and manage side effects; and assist in managing chronic health conditions.

With current and future health issues arising, remote patient telemedicine has become a crucial factor for patients, specifically those living in remote areas. These services provide care to those patients with lack of resources in their area, such as providers specializing in certain health issues. Telemedicine provides patients with a multidisciplinary team to provide overall quality of care to them from the comfort of their home. We hope to reduce the number of emergency room visits and unnecessary costs associated with frequent follow-ups, breathing tests, and exacerbation issues.
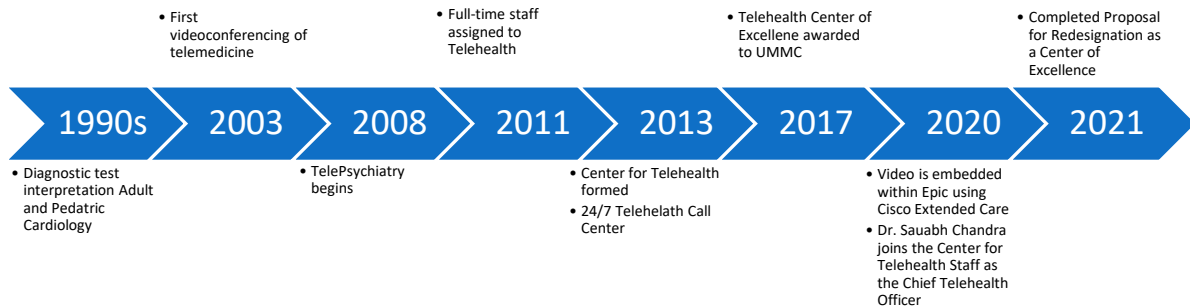
Mission Statement

The University of Mississippi Center for Telehealth Asthma Management Program is dedicated to improving the quality of life in Mississippi residents diagnosed with asthma by inspiring patients to learn about their disease state, provide education on methods to control their symptoms, provide counseling on how to take prescribed medications, and encourage them to gain control of their condition.

Business Description

Background

UMMC Center for Telehealth Timeline[1]

1990s
- Diagnostic test interpretation Adult and Pedatric Cardiology

2003
- First videoconferencing of telemedicine

2008
- TelePsychiatry begins

2011
- Full-time staff assigned to Telehealth

2013
- Center for Telehealth formed
- 24/7 Telehelath Call Center

2017
- Telehealth Center of Excellene awarded to UMMC

2020
- Video is embedded within Epic using Cisco Extended Care
- Dr. Sauabh Chandra joins the Center for Telehealth Staff as the Chief Telehealth Officer

2021
- Completed Proposal for Redesignation as a Center of Excellence

The University of Mississippi Medical Center (UMMC) created its telehealth program in the 1990s.[1] This program provides patients with remote patient monitoring, or RPM. The UMMC Telehealth department is located on the sixth floor within the C-Spire building in Ridgeland, MS. Nurses are located on the left wing and pharmacists are located on the right wing. Hours of operation are from 8am to 5pm, Monday through Friday. Current services offered at the center include hypertension, type 2 diabetes requiring insulin, type 1 diabetes, heart failure, end stage renal disease, children's' obesity, and children asthma.

This program allows physicians, pharmacists, and nurses to follow patients' chronic illnesses through a tablet computer. The computer allows providers to speak directly to their patients, assess their conditions, and provide recommendations with ease. Patients are referred to the monitoring program through provider referral. Once enrolled, they are monitored on a four- to six-month basis tailored specifically to their illness and provided a tablet for use during the program. Patients will be messaged using video chats and pop ups on their computer tablets. Their results will always be shared with them and their medical providers. Once the patient's condition has remained stable for several months, they will be discharged and provided with instructions about sending back the tablets. The remote patient monitoring program allows patients to become more active in their treatments and ways to manage their conditions. This can lead to improved health outcomes and reduces the risk of hospitalizations. Other RPM services provided through Telehealth include daily health sessions, personalized interventions, automatic notification for potential issues, targeted

education and health coaching, patient empowerment, medication therapy management, and behavior modification.[1]

The Center for Telehealth staff and providers can be described as warm and welcoming. They work collectively to encourage patients to take an active interest in their personal health. Each member of the team works closely together to provide quality care to each patient. This service provides nurses, pharmacists, and physicians an open and safe space to discuss patients' current situations, where recommendations can be provided.

Asthma in Mississippi

According to America's Health Rankings 2021, Mississippi is ranked #48 out of 50, accounting for 10.1% of individuals currently living with asthma.[2] There is 1 in every 14 adults aged 18 and older who have asthma.[3] Several challenges faced by individuals in Mississippi include a high percentage of children living in poverty, high child mortality rate, and a high prevalence of physical inactivity among women.[2,3] All of these factors can cause an increased risk of asthma complications later in life. The CDC State or Territory Mortality data states that Mississippi experienced 58 deaths due to asthma in 2019.[4] According to the CDC, at least 40.4% of adults experienced an asthma exacerbation.[4] At least 15.2% of Mississippians that are diagnosed with asthma have an income of less than $25,000, which is above the United States average of 12.4%.[4]

Service Description

An asthma telehealth program in collaboration with the University of Mississippi Medical Center Telehealth Program will provide care for Mississippi residents with chronic, uncontrolled asthma participating in the Center for Telehealth Remote Patient Monitoring Program. The Telemedicine Protocol will allow pharmacists from the Mississippi State Department of Health Pharmacy and the University of Mississippi Medical Center to provide a service to Mississippi residents ages 12 and older with chronic, uncontrolled asthma. Dr. Charles Grogan, MD can supervise the pharmacists while managing patients with asthma. Our goal in allowing pharmacists to collaborate with physicians to manage asthma exacerbations is to improve patient adherence and prevent any long-term symptoms that may interfere with daily living.

Telehealth counseling will include:

- Gather background information on patients during telehealth calls

- Patient/caregiver education about asthma

- Medication recommendations

- Inhaler skills

- Adherence

- Written asthma action plan
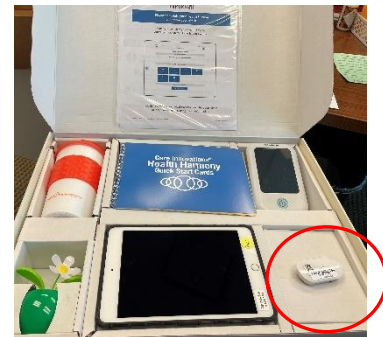
- Assessment, self-monitoring, and follow-up

Digital Peak Flow Meter

$59.99

1   Add to cart

Features & Benefits

- 240 Memories for Children & Adults with Date & Time Stamp
- Peak Flow and FEV1 monitoring for Asthma, COPD & other lung diseases
- Meets American Thoracic Society Standards
- Traffic Light Risk Indicator, Tracking & Analysis software

The telehealth system will use a peak flow meter with a Bluetooth module to gather the patient's daily peak flow values. Although UMMC's Center for Telehealth currently uses a pulse oximeter (shown above) for the pediatric patients, a peak flow meter can provide more information about the patient's daily lung function and how the lungs are reacting to the current medication. The peak flow meter can be attached to the patient's phone, where patients can submit the values into the computer tablet for the pharmacist to review. Based on the patient's average peak flow values, patients will either be contacted by the pharmacists on a weekly or biweekly basis. It is required for pharmacists to check in with these patients at least monthly.

Patients will be instructed to use their peak flow meters daily to measure their peak expiratory flow rate (PEFR). If any patient should have a critical measurement, defined as the patient's peak flow meter readings (Figure 1), they will have weekly or biweekly interactions with the pharmacists to control their symptoms. If their 'personal best' values are below the yellow or red zone, as well as the patient selecting adverse effects of 'difficulty breathing, cough, wheezing, waking up at night due to asthma, or unable to fulfill any activities of daily living', the pharmacist will be notified to provide a Zoom™ call to the patient. At this time, a patient's medication regimen will be adjusted based on the 2021 Global Initiative for Asthma (Figure 2), also known as the GINA Report.[5] The 2021 GINA individualized stepwise approach to controlling asthma and asthma action plan are provided on the new few pages. The pharmacist will discuss all the counseling points above, create a new asthma action plan, and provide the patient with the new action plan after every encounter.

ASTHMA ACTION PLAN

aafa — Asthma and Allergy Foundation of America
aafa.org

Name:	Date:
Doctor:	Medical Record #:
Doctor's Phone #: Day	Night/Weekend
Emergency Contact:	
Doctor's Signature:	

The colors of a traffic light will help you use your asthma medicines.

GREEN means Go Zone! Use preventive medicine.

YELLOW means Caution Zone! Add quick-relief medicine.

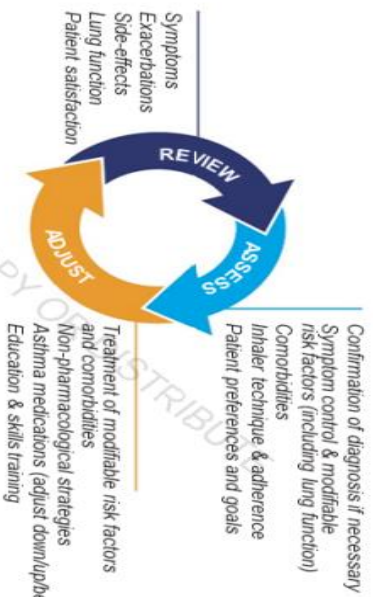**RED** means Danger Zone! Get help from a doctor.

Personal Best Peak Flow: _____

GO	Use these daily controller medicines:		
You have *all* of these:	MEDICINE	HOW MUCH	HOW OFTEN/WHEN
• Breathing is good			
• No cough or wheeze			
• Sleep through the night			
• Can work & play			
Peak flow: from _____ to _____	For asthma with exercise, take:		

CAUTION	Continue with green zone medicine and add:		
You have *any* of these:	MEDICINE	HOW MUCH	HOW OFTEN/ WHEN
• First signs of a cold			
• Exposure to known trigger			
• Cough			
• Mild wheeze			
• Tight chest			
• Coughing at night			
Peak flow: from _____ to _____	CALL YOUR ASTHMA CARE PROVIDER.		

DANGER	Take these medicines and call your doctor now.		
Your asthma is getting worse fast:	MEDICINE	HOW MUCH	HOW OFTEN/WHEN
• Medicine is not helping			
• Breathing is hard & fast			
• Nose opens wide			
• Trouble speaking			
• Ribs show (in children)			
Peak flow: reading below _____			

GET HELP FROM A DOCTOR NOW! Your doctor will want to see you right away. It's important! If you cannot contact your doctor, go directly to the emergency room. **DO NOT WAIT.**

Make an appointment with your asthma care provider within two days of an ER visit or hospitalization.

Figure 1

Adults & adolescents 12+ years

Personalized asthma management

Assess, Adjust, Review for individual patient needs

Symptoms
Exacerbations
Side-effects
Lung function
Patient satisfaction

REVIEW
ADJUST
ASSESS

Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (including lung function)
Comorbidities
Inhaler technique & adherence
Patient preferences and goals

Treatment of modifiable risk factors and comorbidities
Non-pharmacological strategies
Asthma medications (adjust down/up/between tracks)
Education & skills training

CONTROLLER and PREFERRED RELIEVER

(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever

STEPS 1 – 2
As-needed low dose ICS-formoterol

STEP 3
Low dose maintenance ICS-formoterol

STEP 4
Medium dose maintenance ICS-formoterol

STEP 5
Add-on LAMA
Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R
Consider high dose ICS-formoterol

RELIEVER: As-needed low-dose ICS-formoterol

CONTROLLER and ALTERNATIVE RELIEVER

(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

STEP 1
Take ICS whenever SABA taken

STEP 2
Low dose maintenance ICS

STEP 3
Low dose maintenance ICS-LABA

STEP 4
Medium/high dose maintenance ICS-LABA

STEP 5
Add-on LAMA
Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R
Consider high dose ICS-LABA

RELIEVER: As-needed short-acting β2-agonist

Other controller options for either track

| Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT | Medium dose ICS, or add LTRA or add HDM SLIT | Add LAMA or LTRA or HDM SLIT, or switch to high dose ICS | Add azithromycin (adults) or LTRA, add low dose OCS but consider side-effects |

Figure 2

Market Plan

Market Analysis (SWOT) Strengths, Weaknesses, Opportunities, Threats

Strengths	Weaknesses
● Cost effective for patients/providers ● Convenient ● Easy access for symptom control ● Routine follow-up appointments	● New contract with different digital health company ● Technology issues ● Internet connections
Opportunities	**Threats**
● Job availability ● Telehealth expansion	● Actual need for pharmacists ● Accessibility to patients during asthma exacerbations ● UMMC willingness to start program

Marketing Strategy

Several methods will be used to promote the asthma telehealth service to Mississippi residents. The new service will be mentioned on the University of Mississippi Medical Center's Telehealth Services page, where patients can see all the available services provided by telehealth. We will also provide information about the service to physicians working in asthma clinics/centers. This will serve as the direct advertisement to individuals in need of control of their symptoms. They will be our primary route for referrals to the program. Health fairs can be utilized to provide information about the roles and responsibilities of each member of the Telehealth team. These can also be used as an alternative way to reach out to more patients that are not seen by the common physicians in the asthma clinics/centers located around Jackson, MS.

This program will be provided through the University of Mississippi Medical Center's Center for Telehealth. We plan to work with Dr. Charles Grogan, MD and his patients with uncontrolled, chronic asthma. We hope to reach out to other asthma providers within the state that wish to enroll their patients that may need assistance with asthma control and could benefit from our virtual program as our program begins to expand. Instead of waiting to see patients for a follow-up, our services can provide patients with more frequent interactions. Using this method, pharmacists will be able to provide the patient and their provider with information about the weekly, bi-weekly, or monthly calls, any medication changes, and medication counseling that were discussed during their telehealth visit.

Financial Plan

Financial Statements

UMMC's Center for Telehealth currently has a contract with Care Innovations™. This digital health company supplies pulse oximeters to the center for the pediatric asthma patients. They do not currently supply any peak flow meters. Microlife™ Corporation supplies digital peak flow meters across the United States that can be used to monitor the patients' asthma.[6] These digital peak flow meters can be purchased from the company, or the Center for Telehealth can establish a contract with the company, where the company can supply the meters as the program enrolls patients. The nurses are currently working with pediatric patients with uncontrolled asthma so there will be no additional charges as more patients are enrolled. A pharmacist is currently employed and working with hypertension and type 2 diabetes requiring insulin, so expansion into other programs can occur more efficiently. During the initial startup of the program, there will be no additional charges; however, as the program continues to grow, the addition of pharmacists will be needed to provide care to the surplus of patients.

Financial Projections

- Start-up costs:
    - $59.00 for digital peak flow meter from MicroLife™ Corporation supplies
- Fixed costs:
    - $0.12 per physical print-out flyers provided to University of Mississippi Medical Center asthma clinics
    - $0 for monthly virtual advertisement on the University of Mississippi Medical Center's Center for Telehealth website
    - Employee salaries
        - Pharmacist base salary: $100,000/year
            - Fringe benefits: sick leave, medical, dental, life, and vision insurance; paid time off; retirement plans
        - Nurse base salary: $88,000/year
            - Fringe benefits: medical, dental and vision insurance; short- and long-term disability insurance; retirement benefits; paid time off
    - Possible contract with Microlife™ Corporation
        - $60/patient for Peak flow meter kit + iPad
        - Billing codes:

- - - $19.46 for initial setup (one-time co-pay)
  - ○ Telehealth billing codes (patients' insurance billed for services):
    - ■ $32.44/month for virtual interaction timed at 20 minutes
    - ■ $64.15/month for patients using their equipment
- ● Variable costs:
  - ○ Future salary of pharmacists as program expands
  - ○ Technology (computers and software for documenting services) as program expands
  - ○ Telehealth billing codes:
    - ■ $38.71/month for virtual interactions with additional 20 minutes
    - ■ $0/month if unable to interact with patients (unable to bill)

Management Team

Referrals

- Referral orders are received through the electronic health record

- Asthma kits are shipped via Microlife™ Corporation

Registered Nurse Care Coordinator Enrollment

- Roles/Duties

    - Receives the referral orders from the electronic health record

    - Contact referred patients for onboarding assessment within 7 days

    - Explains device setup and program outline and goals

Registered Nurse

- Roles/Duties

    - Virtual call with at-goal patients

- Responsibilities

    - Data summary review of peak flow values for at-goal patients

Pharmacist

- Roles/Duties

    - Data summary review of peak flow values

    - Medication review and reconciliation

    - Assessment of medication adherence and barriers to adherence

- Responsibilities

    - Counseling patients about critical measurements

    - Assess inhaler technique

    - Manage medication therapy

    - Engaging with the patients' providers/primary care physicians to provide updates on interactions and medication changes

Physician

- Roles: seeing patients within their respective work sites, engaging with other physicians

Operations

Methods to regularly evaluate and continuously improve the quality of pharmacy service

- Patient satisfaction survey

- Periodic analyses of participants' clinical outcomes

Our program will provide a virtual service for asthma patients. Patients will have the opportunity to discuss their current health with their physicians, who will refer them to the RPM program based on the patient's need to control the disease state. Once they are referred to the program and enrolled, the pharmacists can begin their assessment. Patients will discuss their lifestyle, daily activities, any risk factors they may possess, frequency of exacerbations, and external exposure that may worsen their symptom control. Once the pharmacist has gathered this information, they will review the patient's lung function and inhaler technique. At this time, the pharmacist may correct any issues the patient may have with their inhaler. After all of this has been reviewed and assessed, the pharmacist can adjust the treatment of any modifiable factors, suggest non-pharmacologic strategies, and recommend asthma medications as appropriate from the GINA guidelines. Patients may require a step up or down from each step based on their current situations. The pharmacist will also provide education and skills training when adjusting medication therapy. At the end of each session, patients can complete a satisfaction survey about their experience on their tablets. This will provide our team with necessary information on how the program is going, what they like and dislike, and specific changes they would like to see for the program. This feedback will be helpful in adjusting the program as needed.

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