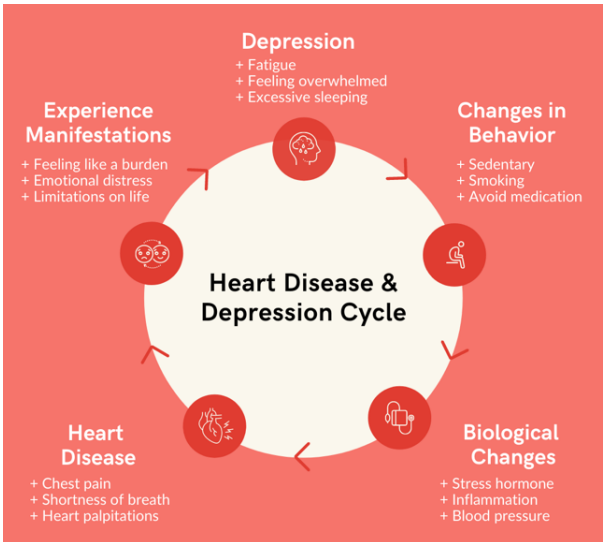
Patient Education: Managing Heart Failure

Depression & Non-Compliance

- 20-30% of HF patients experience mild to severe depressive symptoms.
- Depression occurs in HF due to: (1) physical limitations, (2) reduced quality of life, and (3) psychological burden of HF → leads to a vicious cycle that impacts self-care behaviors.
- Studies consistently demonstrate a strong link between depression and reduced medication adherence in HF patients, with depressed patients being 2.3 times more likely to report poor adherence compared to non-depressed ones.

Mechanisms Linking Depression to Non-Adherence

- Apathy, forgetfulness, and reduced motivation for self-care, making it harder for patients to follow complex regimens.
- Cognitive distortions in depression may cause patients to undervalue the benefits of medications or overestimate side effects.
- Social isolation and lack of support, further exacerbate non-adherence.
- Depression may interact with HF symptoms like fatigue, amplifying barriers to routine pill-taking.
- Depression combined with non-adherence increases hospitalization rates by up to 45%, compared to 24% in non-depressed non-adherent patients.



Clinical Interventions

- Cognitive-behavioral therapy, antidepressants (with caution for cardiac safety), or integrated care models combining cardiology and psychiatry show promise.
- Patient-centered approaches, such as simplifying regimens or providing reminders, may help, especially for those with mood disorders.
- Multidisciplinary teams can offer psychological support and education to enhance self-efficacy.
- Early detection and targeted interventions could break this cycle, improving both mental health and cardiac prognosis.

Pros and Cons of Treatment Strategies for Depression or Anxiety Management in Patients with Heart Failure

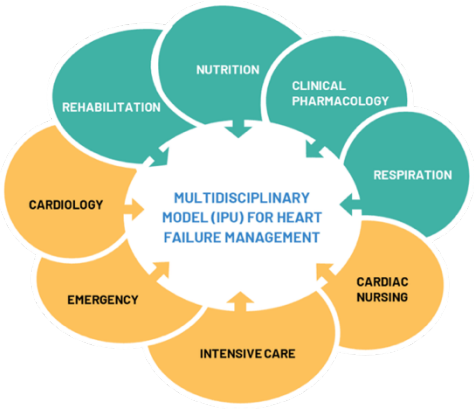
Strategy	Pros	Cons
Pharmacotherapy	Effective in otherwise medically healthy adults with MDD and anxiety disorders SSRIs are safe in patients with cardiac disease	Limited efficacy in HF TCAs have higher risk for side effects (arrhythmias, hypotension)
Psychotherapy	Effective in otherwise medically healthy adults with MDD and anxiety disorders Promising preliminary evidence in HF No side effects	Time intensive Limited evidence in HF Practical challenges (eg, transportation) Less evidence for efficacy of physical symptoms and medical outcomes
Collaborative care	Flexible and can be tailored to a particular patient Evidence for efficacy in patients with HF and coronary artery disease	Labor intensive Less evidence for efficacy of physical symptoms and medical outcomes Current models of care often do not reimburse

Abbreviations: HF, heart failure; MDD, major depressive disorder; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants.

Role of MTM Clinic in Heart Failure

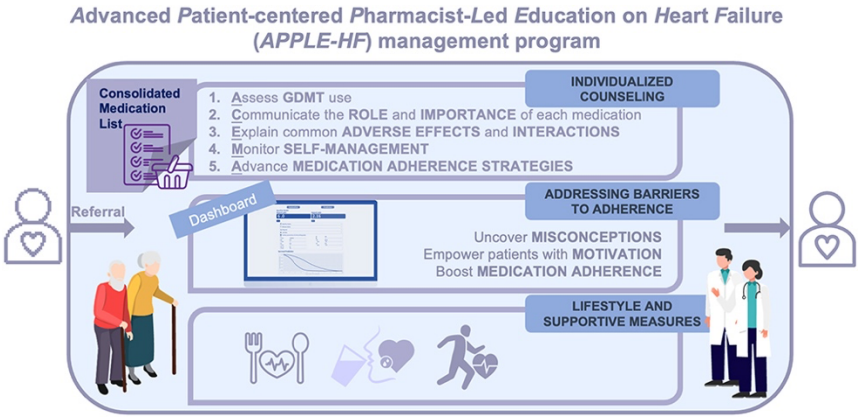
- Medication Therapy Management (MTM) refers to an outpatient patient-centered service provided primarily by pharmacists to optimize therapeutic outcomes through comprehensive medication reviews, education, and monitoring.

Role of MTM Clinic in Heart Failure (cont.)



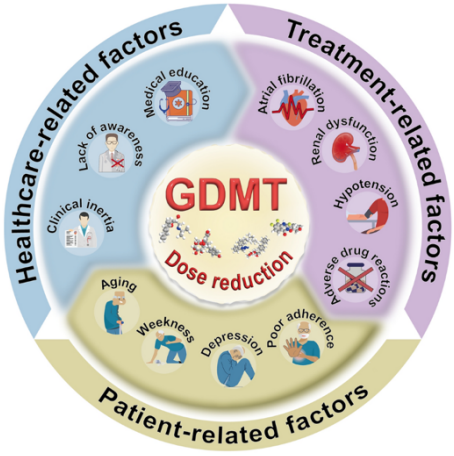
- MTM clinics are often integrated into multidisciplinary care teams with cardiologists, PCPs, RNs, and pharmacists.
- These clinics focus on resolving drug therapy problems (DTPs), enhancing adherence, and supporting guideline-directed medical therapy (GDMT) to improve quality of life and reduce disease progression.

Key Role of MTM Clinic in Heart Failure Management



- Pharmacists conduct thorough assessments to resolve drug therapy problems, such as drug-drug interactions, inappropriate dosing, or the need for additional therapies.
- Ensure patients are prescribed GDMT (Guideline-Directed Medical Therapy) agents like ACEi's, ARBs, ARNI, beta-blockers, mineralocorticoid receptor antagonists (MRAs), and sodium-glucose cotransporter-2 inhibitors (SGLT2i's).
- Screen for drug-disease interactions, which can exacerbate HF. For example, NSAIDs, diabetic medications like TZD's, such as pioglitazone (Actos), promote fluid retention in HF.
- Adjust GDMT drug doses to maximize therapeutic effects while minimizing side effects, especially in patients with changing renal function.

Improving Medication Adherence



- HF medication regimens are complex, often involving several medications, leading to non-adherence in up to 40% of patients.
- MTM clinics address barriers like forgetfulness, cost, and side effects through personalized education, adherence aids (e.g., pillboxes, mobile apps), and follow-up.
- This is crucial for geriatric HF patients, where MTM offers opportunities to simplify regimens and enhance self-management.

Patient Education and Lifestyle Support

- MTM clinics provide in-depth counseling on HF management, including dietary plans, symptom monitoring, and lifestyle modifications.
- Brochures and sessions help patients understand their medications, disease progression, and the importance of adherence, leading to higher treatment satisfaction.
- This is especially vital during transitions of care (TOC), such as post-discharge, where pharmacists educate on new therapies like sacubitril/valsartan (Entresto).

Transition of Care (TOC) and Readmission Prevention

- MTM clinics facilitate seamless handoffs from hospital to outpatient settings, including medication reconciliation and follow-up calls or visits.
- Pharmacist involvement in TOC has reduced 30-day readmissions from 20% to 7% in some programs and lowered acute care use by 48%.

Collaboration in Multidisciplinary Teams

- MTM clinics support collaborative practice agreements with cardiologists, PCPs, and RNs, allowing pharmacists to adjust therapies independently.

Patients meeting two or more criteria are strong candidates for MTM clinic referral.

Diagnosed with Heart Failure (HFrEF or HFpEF)	☐
Prescribed 3 or more chronic medications	☐
Recently discharged from hospital (within 30 days) due to HF	☐
History of non-adherence or missed doses	☐
Reports difficulty affording or accessing medications	☐
Experiencing side effects or medication-related complaints	☐
Has comorbidities requiring medication coordination (e.g., diabetes, CKD, COPD)	☐
At risk for or experiencing drug-drug or drug-disease interactions	☐
Demonstrates cognitive decline or confusion with medication instructions	☐
Needs education or support with lifestyle and medication changes	☐
Taking high-risk medications (e.g., diuretics, anticoagulants, inotropes)	☐

Health Literacy and Medication Adherence in Heart Failure

- Health literacy (HL) refers to an individual's ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions.
- HL plays a critical role in HF patients who often manage complex medication regimens involving multiple drugs like ACE inhibitors, beta-blockers, and diuretics.

Mechanisms Linking Health Literacy to Adherence

Cognitive Barriers:

- Patients with low HL struggle to understand medication instructions, labels, or the importance of GDMT, leading to unintentional nonadherence (e.g., forgetting doses or misunderstanding timing).

Perceptual and Emotional Factors:

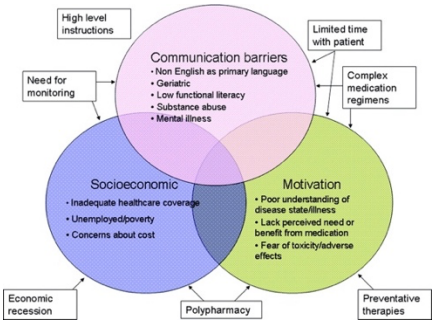
- Non-adherence often stems from feeling worse on medications (85.5% of nonadherent patients) or stopping when symptoms improve (95.2%).

Failure to Recognize Side Effects and When to Seek Help:

- Misinterpreting side effects and failure to recognize worsening HF symptoms results in delayed care.

Communication Barriers:

- Patients with limited HL may avoid asking questions, struggle to communicate concerns, or may feel embarrassed about not understanding instructions.



Strategies to Improve Adherence Through Health Literacy Support

- Use plain language and avoid medical jargon.
- Provide visual aids, pill charts, or simplified medication schedules.
- Use the “teach-back” method to confirm understanding.
- Provide written instructions at an appropriate reading level (≤ 6th grade).
- Utilize pharmacist-led education, MTM clinics, or health coaches.
- Encourage family involvement where appropriate.
- Offer multilingual support for non-native speakers.

Key Issues in Medication Education for Non-English Speakers with Heart Failure

- Patients who are non-English speakers, who are referred to as patients with limited English proficiency (LEP), present with language barriers and higher admissions rates, emergency visits, and adverse events.
- LEP issues are compounded by cultural, systemic, and socioeconomic factors, particularly among immigrants and refugees.

Communication and Language Barriers

- LEP patients struggle to comprehend HF etiology, prognosis, treatment options, and medication instructions due to complex medical terminology and explanations.
- This leads to misunderstandings in dosage, timing, side effects, and the importance of adherence, increasing risks of non-adherence and errors.
- For example, misinterpreting symptoms or instructions (e.g., confusing "fatiga" as fatigue instead of shortness of breath) can delay care and affect medication use.

Inadequate Interpreter Services

- Reliance on unqualified interpreters, such as family members or non-medical staff, often results in errors, omissions, or breaches of confidentiality, hindering accurate medication education.
- Delays in accessing professional interpreters during appointments or discharges leads to incomplete understanding of regimens.
- Systemic issues, like not integrating interpreters into HF care teams or providing contact info at discharge, further compound problems.

Lack of Translated and Culturally Appropriate Materials

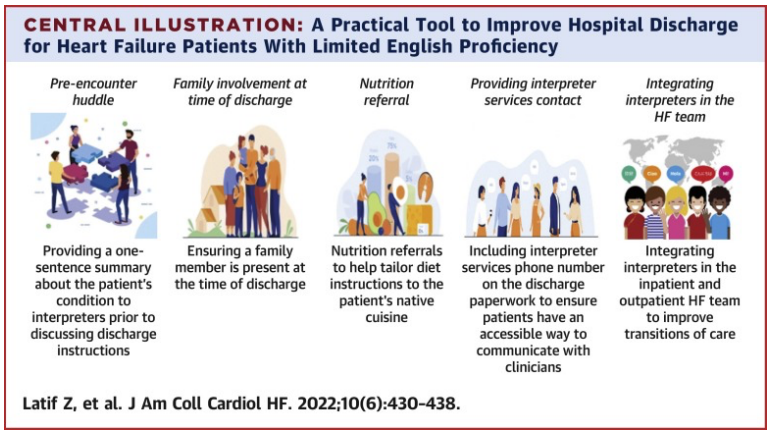
- Many educational resources, including websites, brochures, and labels, are unavailable or inaccurate in non-English languages, leaving patients dissatisfied and uninformed about HF management and medications.

Cultural Beliefs and Perceptions

- Cultural views, such as perceiving Western medications as "too strong" or fearing "build-up" in the body, can lead to dose reduction, discontinuation, or combining with traditional remedies, risking interactions (e.g., vitamin K-rich foods with anticoagulants).
- Stigma around chronic illnesses or preferences for injections over pills may also reduce adherence to oral HF therapies.

Low Health Literacy Compounded by Limited English Proficiency (LEP)

- LEP often overlaps with low health literacy, making it hard to process information on chronic management, side effects, or lifestyle integration.
- Patients may not understand the lifelong nature of HF treatment, leading to stopping meds when symptoms improve. Illiteracy further prevents reading labels or instructions.



Socioeconomic and Access Challenges

- Immigrants who are unfamiliarity with healthcare systems, including refills, appointments, and costs, also hinders adherence.
- Immigrants may share medications or store expired ones.
- With time constraints during visits, foreign-born non-English speakers lack sufficient time to comprehend explanations.

Psychological and Social Isolation

- LEP patients may feel isolated, hesitant to ask questions, or guilty about their condition, reducing engagement in education, contributing to nonadherence.

Solutions & Strategies: Best Practices for Providers and Health Systems

- Use certified medical interpreters and avoid relying on untrained family members.
- Provide translated plain-language materials in the patient's primary language.
- Use visual aids and pictograms.
- Employ the teach-back method to confirm understanding by asking patients to explain medication instructions in their own words.
- Train providers in cultural competency.
- Simplify drug regimens when possible to reduce pill burden and frequency.

Heart Failure: Self-Management Tools & Techniques

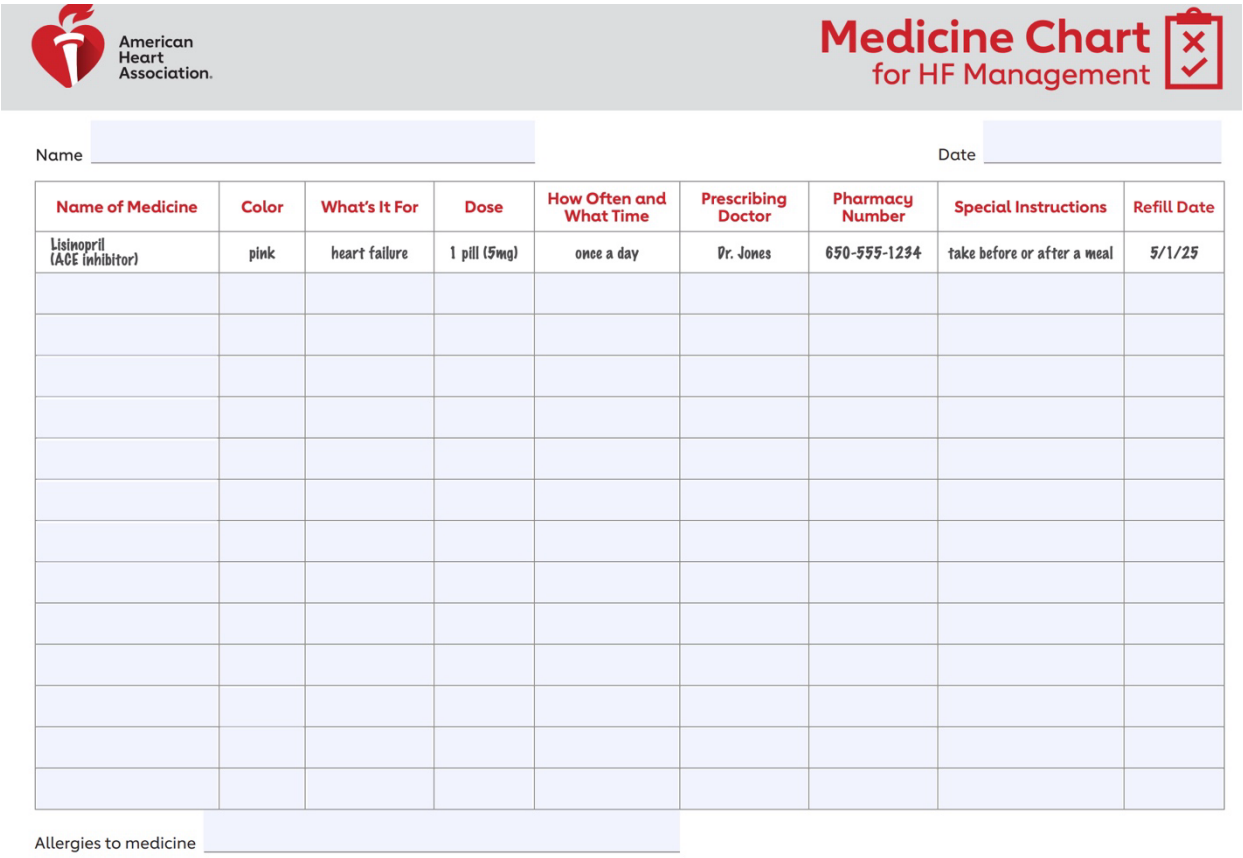
- Heart failure (HF) is a chronic condition that demands rigorous adherence to pharmacological treatments and lifestyle modifications, such as dietary restrictions, regular physical activity, symptom monitoring, and fluid intake management.
- Non-adherence can lead to worsened symptoms, increased hospitalizations, and higher mortality rates.

Heart Failure: Self-Management Tools & Techniques (cont.)

- Self-management techniques, such as medication calendars, pill boxes, electronic reminders, and mobile phone apps, empower patients to take control of their care, fostering better compliance and overall health outcomes.
- These tools address common barriers like forgetfulness, complex regimens, lack of education.

Medication Calendar

- Medication calendars serve as simple, low-tech visual aids that allow HF patients to track daily medication intake, dosages, and schedules. By marking off doses as they are taken, patients can easily identify missed medications and maintain a routine, which is particularly helpful for those managing polypharmacy typical in HF.



American Heart Association.

Medicine Chart for HF Management

Name _____ Date _____

Name of Medicine	Color	What's It For	Dose	How Often and What Time	Prescribing Doctor	Pharmacy Number	Special Instructions	Refill Date
Lisinopril (ACE inhibitor)	pink	heart failure	1 pill (5mg)	once a day	Dr. Jones	650-555-1234	take before or after a meal	5/1/25

Allergies to medicine _____

Pill Boxes

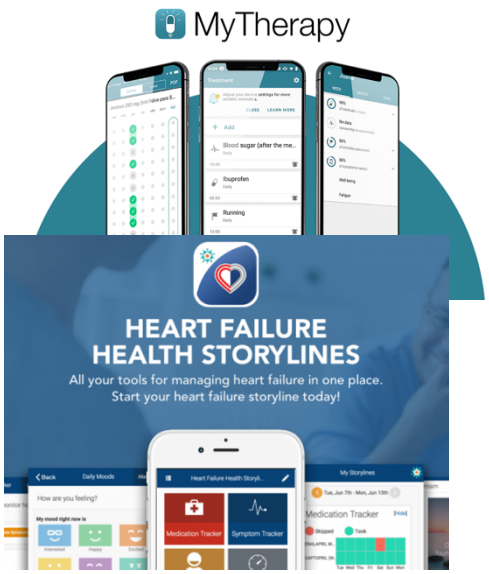
- Pill boxes, or organizers, are compartmentalized containers that sort medications by day of the week and time of day, simplifying complex regimens and minimizing errors like double-dosing or skipping.

- While primarily focused on medications, pill boxes indirectly support lifestyle changes by freeing cognitive resources for other self-management tasks, such as tracking physical activity or diet.
- Examples: MedMinder and e-Pill.

Electronic Reminders

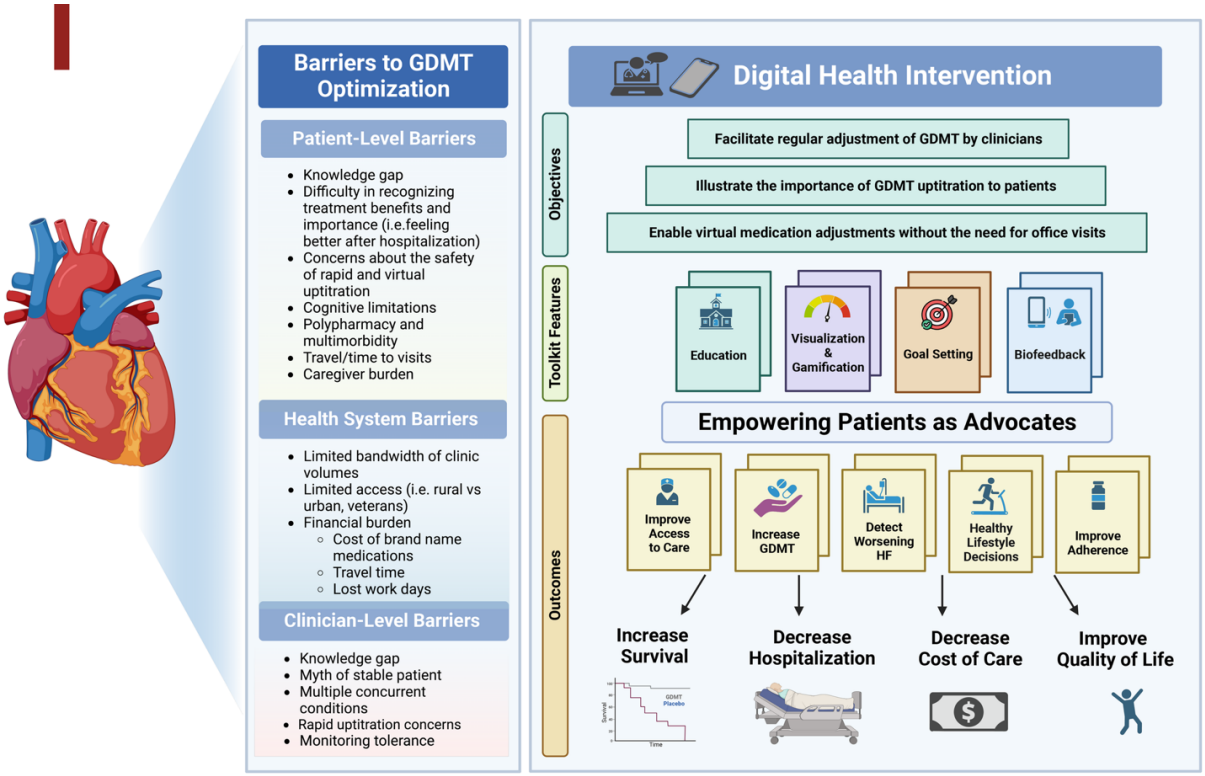
- Electronic reminders, such as alarms from devices, automated phone calls, or smart pill dispensers, deliver timely prompts to take medications, addressing forgetfulness - a key adherence barrier.
- For lifestyle changes, some electronic systems extend reminders to non-medication tasks, like daily weighing or exercise, contributing to better self-care management.
- Examples include digital assistants (e.g., Siri, Google Assistant, Alexa) with verbal reminders and smart watches/wearable health devices (e.g., Apple Watch, Fitbit).

Mobile Phone Apps



- Mobile apps combine reminders, education, and tracking in a user-friendly platform.
- Features like customizable alerts for medication times, dose logging, and refill notifications directly boost adherence,
- Recommended Apps:
  - Medisafe: Provides med reminders with refill tracker.
  - MyTherapy: Combines med tracking with health journal and symptom log.
  - Heart Failure Storylines: Specific to heart failure, includes a symptoms tracker, med scheduler, and weight log.
  - CareClinic: Health diary, reminders, and HF care plans.
- Useful Feature in mobile apps include push notifications for meds and appointments; weight and blood pressure logs; and data sharing with caregivers or healthcare providers.

Leveraging Digital Health to Facilitate Patient Engagement in Heart Failure Management



Other Self-Management Practices for Heart Failure

Daily Weight Monitoring

Weigh yourself every morning before breakfast. Weight gain of **three (3) pounds or more overnight** or **five (5) pounds or more in one week** should prompt a call to the physician.

Dietary Management

- A healthy level of sodium intake is less than 2.3 grams (approx. 1 tsp of sodium each day)
- Fluid restriction, if advised.
- Maintaining a healthy body weight minimizes cardiac workload.
- Avoid alcohol and smoking.

Manage your diet. Eat less salt and avoid alcohol. Limit fluids if directed by your provider.

Regular Exercise

- Following a physician-approved exercise program may reduce symptoms of fatigue and shortness of breath.
- A "cardiac rehab" program is a personalized approach to exercising safely to improve cardiac function and overall health.

Exercise regularly. Balance activity and rest periods.

Symptom Monitoring

Report any of these symptoms to your doctor:

- New or increasing shortness of breath
- Persistent cough or feeling of congestion in lungs
- Waking up short of breath or needing to sleep sitting up
- Swelling in feet, ankles or legs
- Abdominal bloating
- Nausea
- Lack of appetite
- Decrease in ability to exercise
- Weight gain — *Call your doctor if you gain three pounds or more in one day or five pounds or more within a week*
- Dizziness or confusion
- Fast or irregular heart rate; palpitations

Some of these symptoms are the result of fluid build-up in your body. Fluid build-up from heart failure also causes weight gain, frequent urination, and a cough that's worse at night and when you're lying down. Acute shortness of breath is a sign of pulmonary edema. This is a condition in which too much fluid builds up in your lungs. The condition requires emergency treatment.

Heart Failure Action Plan

Symptom Chart — Stop Light Tool

WHAT HEART FAILURE ZONE ARE YOU IN TODAY?

CUT HERE

GREEN ZONE: ALL CLEAR

- Base Weight: _____
- No coughing, wheezing, chest tightness or shortness of breath
- No weight gain of three (3) lbs. or more overnight or five (5) lbs. or more in one week
- No decrease in your ability to maintain a normal balance of activity and rest periods
- No fluid retention (edema) or swelling of the feet, ankles, legs, or stomach area
- Able to do regular activities

GREEN ZONE MEANS:

This is where you want to be!

- Your symptoms are under control — check for symptoms daily
- Continue taking your medicine and exercise as ordered
- Balance activity and rest periods activity
- Limit fluids as directed by providers
- Maintain a low-sodium diet
- Keep your medical appointments
- Log your weight, heart rate, and blood pressure daily (at the same time each day)
- Stop smoking. For assistance in quitting, call 1-800-NO-BUTTS or contact your doctor

YELLOW ZONE: CAUTION

If you have any of the following symptoms, call the Heart Failure Clinic and/or doctor:

- Weight gain of three (3) lbs. or more overnight or five (5) lbs. or more in one week.
- New or worsening cough
- New or Increased swelling of feet, ankles, legs or stomach area
- Increased shortness of breath with activity and/ or when lying in bed
- Trouble breathing when lying flat on back and needing to sleep sitting up
- Increase in the number of pillows needed to sleep in bed or needing to use a chair when sleeping
- Feeling more tired or having less energy than normal
- Changes in urine (decrease or darkness in color)
- Dizziness

YELLOW ZONE MEANS:

- Add quick relief medicine:

  _____

- Your symptoms may indicate that you need an adjustment in your medication

  _____

- **Call the Heart Failure Clinic (if applicable):**

  _____

- **Call your physician:**

  NAME: _____

  PHONE: _____

RED ZONE: MEDICAL ALERT

- Very short of breath or chest pain that is not relieved
- Wheezing or chest tightness while at rest
- Chest pain not relieved or that reoccurs after taking two (2) Nitroglycerin tablets
- Confusion or inability to think clearly
- Fainting or near fainting
- Skin color looks pale or gray, or fingernails or lips look blue

RED ZONE MEANS:

You need to be seen by a physician right away!

CALL 9-1-1

OR GO TO THE EMERGENCY ROOM

IN AN EMERGENCY SITUATION