

**OUTPATIENT CLINICAL STUDENT ROTATION WITHOUT DIRECT PATIENT CONTACT:
Leveraging Care Transitions to Benefits Students and Patients**

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Background: Patients with cardiovascular disease are among the highest risk groups for poor outcomes with COVID-19 infection. Due to concerns of nosocomial SARS-CoV-2 spread to our high-risk patients admitted for non-COVID-19 indications, the practice of earlier-than-usual discharges has been implemented at our institution as a risk mitigation strategy. As such, close outpatient follow up and meticulous transition of care is crucial to ensure the best outcomes in this patient population.

Since the removal of medical students from direct patient care due to the COVID-19 pandemic, it has been challenging to provide meaningful clinical experiences for the students that would meet clinically-based course goals and objectives. The ability to provide such experiences now is especially important for students who need to graduate on time and start their residency training as scheduled.

During clinical inpatient rotations, students traditionally play a key role in coordinating patient discharges. Examples include scheduling follow-up appointments, reconciling medications, and identifying the social context in which medical care plans are developed. Immediately available direct and indirect supervision are paramount to ensure safe transitions of care.

In this document, we describe a novel clinical educational experience for senior medical students that fulfills clinical care learning objectives while providing essential care to a vulnerable patient population virtually.

Goal: To provide students with a clinical patient care learning opportunity focused on transitions of care.

Learning Objectives:

Learning Objective	Core Competency
Demonstrate knowledge of specialty-relevant clinical topics	Medical Knowledge
Assess the clinical status of patients via a telephone encounter	Patient Care

Recommend appropriate treatment steps based on a clinical encounter	Patient Care
Recognize the critical nature of safe care transitions	Practice-Based Learning and Improvement Systems-Based Practice
Communicate effectively with patients, family, and team in a virtual setting	Interpersonal and Communication Skills

Assessment: Standard clinical rotation evaluation form can be used to evaluate student performance.

Resources: Smartphone, computer, home access to Electronic Health Record.

Description:

At Thomas Jefferson University Hospital, students are assigned to the cardiology service for this learning opportunity.

The formal curriculum is provided via daily synchronous virtual didactics held via videoconferencing. Additionally, resources in the form of podcasts and key articles are assigned to the students (addendum #1).

Each morning, patients scheduled for discharge are identified and assigned to each student (addendum #2). At this time, students “meet” the patient and their family via telephone, introducing themselves and their role on the care team.

In the afternoons, students contact already discharged patients. Using a standardized set of questions to start the conversation (addendum #3), they gather interval history, assess patient’s clinical status, and evaluate compliance with medications and response to medical treatment. Students are instructed to specifically identify a variety of high-risk clinical situations requiring urgent follow-up. After each encounter, students present each patient to a dedicated cardiology fellow via videoconferencing who provides education around the patient’s admitting diagnosis, clinical course, and specific care transition issues that were identified. Any concerning aspects of each patient encounter are triaged, determining the next steps in the care plan. Daily feedback is provided to each student; their curriculum is iteratively adjusted to address identified gaps in knowledge.

Students submit the written documentation that, after review by a supervising fellow, becomes a part of the permanent patient record.

Our experience: At the time of writing of this document, this educational experience has been implemented for 2 weeks. Students report that they are feeling engaged and are able to participate meaningfully in clinical patient care. During this time, our students have intercepted several “near misses.” The feedback from the students and supervising cardiology fellows and faculty has been overwhelmingly positive.

Addendum #1: Assigned Journal Articles and Recommended Podcasts

Recommended Articles

Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *J Am Coll Cardiol*. 2019;74(10):e177-e232.

January CT, Wann LS, Calkins H, et al. 2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. *J Am Coll Cardiol*. 2019;74(1):104-132.

Levine GN, Bates ER, Bittl JA, et al. 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *J Am Coll Cardiol*. 2016;68(10):1082-1115.

McMurray JJV, Packer M, Desai AS, et al. Angiotensin-neprilysin inhibition versus enalapril in heart failure. *N Engl J Med*. 2014;371(11):993-1004.

Weiner SJ, Schwartz A, Weaver F, et al. Contextual errors and failures in individualizing patient care: a multicenter study. *Ann Intern Med*. 2010;153(2):69-75.

Yancy CW, Jessup M, Bozkurt B, et al. 2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *J Am Coll Cardiol*. 2017;70(6):776-803.

Recommended Podcasts

HeartSuccess: <https://heartsuccess.info/>

Clinical Problem Solvers: <https://clinicalproblemsolving.com/>

Cardionerds: <https://www.cardionerds.com/>

Curbsiders: <https://thecurbsiders.com/>

Addendum #2: Items to include when assigning a patient to medical student

- Name/contact info of resident assigning patient
- Name/contact info of medical student assigned to patient
- Patient Name/MRN
- Date of discharge
- Date of medical student telephone follow up (determined by residents)
- Name, telephone, and email address of the person the medical student will contact (sometimes this is the patient, but more often than not it is a dedicated family member or caregiver, critical to ensure the contact person is reliable and technologically savvy)
- Patient specific issues key to assess during telephone follow up (determined by residents)

Addendum #3: Telephone Follow Up Guide

Phone Call Template for Cardiology Discharges

Patient Name: _____
 Phone # (____)____-____
 MR #: _____ Alternative Phone or Caregiver: _____ (____)____-____

Call Attempt	Date	Caller	Progress Notes
#1			Completed Unable to Reach
#2			Completed Unable to Reach
#3			Completed Unable to Reach

Hello, my name is _____ and I am a medical student at Thomas Jefferson University Hospital. I am calling to see how you have been doing since you left the hospital.

Is now a good time to talk, or is there another time that is more convenient?

List alternative date / time for requested call back: _____

General Follow up:
 -Generally speaking, have you been feeling better, the same, or worse since leaving the hospital? How so?
 -What specific concerns do you or your primary caregiver have?

If any issues, describe:

Patient-Specific Follow up:
 -Please look for resident's "event note" to identify these issues. Here you will see the specific signs/symptoms and care transitions unique to this patient's discharge.

If any issues, describe:

Medication Reconciliation
 -Who oversees the medications? Must speak with them for this part.
 -Go over all medications (dose, route, and frequency) and the "system" they use to limit any errors with keeping track of their medications.
 -Make sure discontinued meds are truly discontinued
 -Make sure dose changes have been acknowledged
 -Make sure there are no issues with medication access (both the ability to get to a pharmacy as well as insurance coverage/cost)
 -If patient is on a diuretic, what is the weight trend, new/worsening swelling, orthopnea, PND, bloating, nocturnal coughing?
 -If new BP meds -> Symptoms of hypotension?
 -If new anti-thrombotic meds -> Signs of bleeding?

If any issues, describe:

Social work and case management issues
 -Any issues with common post discharge services such as PT, OT, wound care, visiting RNs?

If any issues, describe:

Telehealth issues
 -Do they have a MyChart account?
 -Do they have a JeffConnect visit scheduled?

If any issues, describe: