

Collaborative Model of Clinical Education Toolkit and Resource Handbook

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Table of Contents

Introduction 2

Roles and Responsibilities 3

Part I: Structure and Progression

Orientation and First Week 4

Pre-Clinical Orientation 4

Day One 5

First Week Structure 6

Structuring the Experience

First half/Up to Midterm 7

Midterm to Final 8

Post-Clinical Experience 8

Suggested Teaching Strategies for Specific Clinical Experience Levels 9

Part 2: Addressing Challenges in Collaborative Model of Clinical Education

Low Census 11

Performance Differences between Students 12

Behavior and Learning Style Differences between Students 13

Appendices

Collaborative Model Contract 15

Weekly Reflection and Feedback Form for Collaborative Model 17

References 19

Introduction

The success of a collaborative model requires a team approach between the universities, clinical sites and students. We thank you for your interest in the collaborative model and provide you with this toolkit as a resource to support the integration of the collaborative model as part of your clinical education program.

The Collaborative Learning Model

In clinical education, a collaborative model is defined as 2 or more students working together under the supervision of one primary clinical instructor.¹ While some may voice concern over the quality of the Clinical Education experience in a 2:1 model, evidence suggests otherwise. No single model of clinical education has been shown to be superior in entry-level physical therapy programs.^{2,3}

Collaborative models align well with contemporary pedagogy⁴ and have demonstrated positive outcomes related to student learning and satisfaction.⁵⁻⁷ DeClute and Ladyshevsy⁶ studied collaborative models and determined higher student performance was reflected in clinical competency evaluations using this model when compared to the traditional 1: 1 model. The authors suggested the benefits of a collaborative model include a higher level of clinical performance by students which may have been due to student peer collaboration that fosters problem-solving, higher standards of practice and clinical instructor satisfaction.⁶

Utilizing of traditional or collaborative models for clinical education does not have adverse effects on patient care productivity.⁹ In fact, research supports positive outcomes on increased clinical instructor (CI) productivity during the time the CI is actively mentoring students.^{10,11} Strohschein et al⁵ suggest the collaborative model is effective for student learning and can be best achieved when the CI delegates their patient care to students while the CI dedicates their time to fostering clinical learning for each student.

The keys to success for collaborative models include preparing both students and CIs through education, planning, communication and resources, requiring dedicated support from the academic program.^{4,6,12} This toolkit has been designed to serve as a resource to help guide clinical sites, the university and students throughout the clinical experience. We welcome your feedback and look forward to working with you as you develop a collaborative model that best fits your organization. We would like to thank all of the leaders and authors who contributed to the development of this tool and are listed in the reference section of this toolkit.

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Roles and Responsibilities that may be unique to Collaborative Model Experiences

	Pre-Experience	During Experience	End of Experience
SCCE	<ul style="list-style-type: none"> Send out information to students Prepare CI- discuss teaching strategies, answer questions, etc. Prepare Staff/Site (i.e. scheduling, space) Communicate with program regarding CE expectations, questions, etc. 	<ul style="list-style-type: none"> Provide Orientation first day/week Perform periodic check-ins with CI Communicate with program as needed (challenges, questions, etc.) 	<ul style="list-style-type: none"> Gather feedback from CI Provide feedback to school Gather feedback from student (exit interview)
Clinical Instructor	<ul style="list-style-type: none"> Gather information from students (i.e. learning styles, previous experience, etc.) Meet with SCCE about schedule, expectations Communicate directly with program re: CE expectations Plan patient schedule (if able) appropriately to accommodate students Plan schedule to include debriefing, feedback time with students 	<ul style="list-style-type: none"> Participate in student orientation Provide opportunities for individual and peer learning Recognize differences in students and tailor experience appropriately Meet with students to provide feedback Promote peer learning by providing opportunities for collaboration 	<ul style="list-style-type: none"> Provide individual feedback to each student- CPI review, overall performance during experience Meet with SCCE to discuss collaborative model experience- successes, challenges, changes for next time Communicate with academic program regarding experience- is there anything else program could do to support the clinical site, prepare students, etc?
Academic Program	<ul style="list-style-type: none"> Match students appropriately to collaborative experiences Coordinate with clinical site to support collaborative model Prepare students for collaborative model 	<ul style="list-style-type: none"> Maintain open lines of communication with CI and students Be available for questions, support, etc. as needed Review CPIs at midterm and final 	<ul style="list-style-type: none"> Gather feedback from students regarding the experience Gather feedback from SCCE/CI regarding experience Modify processes for future clinical experiences
Student	<ul style="list-style-type: none"> Select collaborative model experience if appropriate Prepare and send introductory information to site Review expectations of clinical experience and reflect on learning opportunities 	<ul style="list-style-type: none"> Seek out opportunities for individual and peer learning Recognize value of peer learning model Demonstrate professional behaviors consistently throughout experience Meet with CI to discuss individual performance, gather feedback 	<ul style="list-style-type: none"> Complete Site Evaluation Feedback form Provide feedback to DCE/Clin Ed team regarding learning experience- successes, challenges, etc. related to collaborative model

Orientation

Studies show that orienting students to the clinical environment and providing expectations correlates with positive student/CI outcomes. In a study conducted on nursing students, McCoy MA, et al¹³ reported students that receive an orientation gain a sense of security and belongingness within their clinical practice setting, thereby improving interpersonal relationships and communication.

Pre-Clinical Orientation

Prior to the arrival of the students and the start of the clinical experience, clear communication from the University, the clinical site, and the students is important. The timeline of communications may vary based on your clinical site's procedures, as well as University expectations. The following are suggested activities and communications that may occur prior to the start of the clinical.

	Communications	Activities
University	Student names and contact information sent to site several months ahead of experiences	Training with SCCE and CIs participating in collaborative model several months ahead of experiences
	Students send individual information and introductory letter outlining individual and collaborative learning goals for experience	Resource toolkit is provided around time of training
	Program contacts SCCE and CI just prior to start of rotation: <ul style="list-style-type: none"> • Answer final questions • Offer support as needed • Recommend timeline for University-site communications during CE 	Student preparation for collaborative model occurs during on-campus prep sessions and/or meetings. Topics may include: <ul style="list-style-type: none"> • Benefits and challenges of 2:1 • Student, team, CI/SCCE expectations • If students are from the same school, arrange a meeting to review expectations together
Clinical Site	SCCE contacts students via email to confirm 2:1 model and provide on-boarding information. Information unique to 2:1 model might include: <ul style="list-style-type: none"> • Patient caseload mix if differences between students • Second student's contact information (if student from different university) 	SCCE meets with CI(s) to discuss schedules: <ul style="list-style-type: none"> • Patient schedules • Teaching time (individual and team meetings) SCCE and CI discuss any potential challenges and create possible solutions or alternatives SCCE connects students via email or online meeting platform to discuss 2:1 collaborative process

Day 1: Introductions and orientation

Orientation will have similarities to orientation for students that are not participating in the collaborative model. General orientation might include:

- Introductions to clinical staff, other students, interdisciplinary team members, etc.
- Review of facility or clinic services
- Review of facility or clinic policies and procedures
- Introduction to documentation (e.g. EMR) and billing procedures
- General review of expectations:
 - Professional behaviors
 - Assessment procedures (e.g. CPI)
 - Use of weekly planning and reflection forms to document individual student learning/goals as well as team learning needs

The collaborative model brings additional expectations of the students and the CI with regards to professional behaviors, teaching strategies, and goal setting. It is important to begin the experience reviewing these expectations with the students and answering any questions students may have about the structure and progression of the experience. Discussion should emphasize the importance and benefit of collaborative learning and the expectation that students will engage in peer-to-peer learning THROUGHOUT the experience, and not just at the beginning of the clinical. Additional content that may be discussed may include:

- Student expectations regarding team-based learning
- Identifying team goals- daily and weekly
- Peer-to-peer teaching and learning
- Peer feedback
- Professional behaviors: collaboration vs. competition; respectful communication
- Discussion of potential teaching strategies to facilitate individual and team learning:
 - Assignment of individual and shared patient caseload
 - Team projects: mini-rounds, in-services, journal clubs
 - Encouraging peer-to-peer feedback and reflection
 - Collaborative learning during down-time

Initial Patient Encounter (Day 1):

Depending on the level of the students (first, intermediate, final clinical experience), the students may observe the CI initially, or begin co-treating patients alongside CI. The clinical instructor is encouraged to facilitate peer-to-peer interaction and collaboration during the initial patient encounters. Students can be encouraged to debrief together following the first encounter to set a goal for team learning. Discussion may include what they observed during session and how they envision the collaborative model to work. The CI can then meet with the students to review their plan and set the schedule for the remainder of the week.

First week: Suggested strategies for scheduling and teaching

- CI creates a schedule for patient care (with or without the team) assigning students to individual patient care and collaborative patient care.
 - May include new patient examination/evaluation or follow-up visits for patient care.
 - CI determines students' level of patient engagement (observation, shared CI/student in patient care, individual student leads encounter with CI available to assist as needed)
 - Students determine how they will collaborate during new evaluations (depending on student's prior exposure to clinical experiences). Dividing roles and responsibilities and writing out key questions for patient history and review with CI. Students can repeat this process for the objective portion of the examination and/or work with the CI.
 - New patient cases, students collaborate on diagnosis, prognosis, intervention and outcomes. CI reviews students work and discussion on next steps and division of responsibilities is created
- CI provides individual and/or collaborative teaching depending on caseload and student's prior exposure to clinical experiences.
- End of week, students reflect on the week. Discuss how the week went and decide on what revisions will be made to optimize individual and team learning.
- Students set goals for forth coming week (individual and team)
- CI reviews goals
- University should contact the CI and the students at the end of the first week to check-in and offer support/resources

Structuring the Experience

First Half (Up to Midterm)

	Suggestions for Structure
Caseload Management	<ul style="list-style-type: none"> • Student caseloads increase based on patient census and level of clinical experience • CI and students determine which patients are placed on individual caseloads and which patients may provide collaborative learning opportunities • Students participate in creating daily and weekly schedules as clinical progresses
CI - Student Meetings	<ul style="list-style-type: none"> • Individual CI-Student meetings are built into the weekly schedule to allow for feedback, individual goals, and plan for individual student progressions • Team meetings with CI and both students also occur weekly to allow for peer-to-peer feedback, establishment of team learning goals
Peer-to-Peer Learning	<ul style="list-style-type: none"> • Students are encouraged to seek guidance and assistance from one another formally and informally • CI sets designated times for students to meet together- SEPARATE FROM THE CI • CI identifies patients that provide unique learning opportunities and schedules co-treatments and time for students to prepare for and document the encounter together.
Midterm CPI Completion and Review	<ul style="list-style-type: none"> • CPI may be completed during clinic time while students are treating known/simple patients, while students are documenting, collaborating on team project, etc. • Tips for CPI completion: <ul style="list-style-type: none"> ○ Make notes on each student throughout the experience- save weekly goal sheets, note individual strengths and weaknesses, etc. ○ Access the CPI early. The CPI can be edited and revised up until the time of sign-off ○ Make notes directly in the CPI under specific performance items. These notes can help the CI to remember individual student performance, successes, challenges, etc. • Midterm meeting between CI and student: review the student's progress and set-goals for second half of the rotation. CI/student can also discuss the collaborative model to ensure individual and team expectations are realistic and being met.

Second Half (Post Midterm)

	Suggestions for Structure
Caseload Management	<ul style="list-style-type: none"> • As patient census permits, each student’s individual caseload should increase as determined through midterm discussions. • CI does not carry own caseload but instead distributes patients between two students • Responsibility for scheduling patients and designing/identifying learning opportunities shifts to the students
CI – Student Meetings	<ul style="list-style-type: none"> • Individual CI and student meetings continue on weekly basis • Student should be taking initiative to identify areas for growth, learning needs, and collaborative learning opportunities
Peer-to-Peer Learning	<ul style="list-style-type: none"> • CI continues to allow time for students to meet separately from CI for sharing, debriefing, etc. • Students are encouraged and expected to share goals with their peer and discuss how they can assist each other in attaining the goals. • If an in-service is required by either the clinic or the University, consider whether it would be most beneficial to have students provide individual or collaborative in-service presentation <ul style="list-style-type: none"> ○ Consider the learning needs of the students ○ Consider the needs of the facility/clinical staff- what will benefit they benefit from most?
Final CPI Review and end of experience	<ul style="list-style-type: none"> • Last 2 weeks of the rotation, CI creates exit plans for the patients on student caseloads, planning for a seamless transition back to CI’s caseload (or other clinician) once students depart. Students are part of the discharge planning process • CI prepares individualized final CPI and schedules final student meeting • Final team meeting and reflection on the last days of student experiences

Post-Clinical Experience

Once the clinical experience has finished, it is a good opportunity for the University and the clinical site to “debrief” about how the experience went overall with regards to the collaborative model. Depending on the role of the SCCE at the clinical site, the SCCE should be involved in the discussion, along with the CI and the University clinical education coordinator. Discussion may revolve around challenges and successes during the experience, changes that may improve future collaborative experiences, and further resources that may be helpful in preparing and carrying out the collaborative model.

Suggested Teaching Strategies for Specific Student Levels

The progression of individual vs. collaborative learning may differ depending on the students' academic level. The following are some suggestions for learning activities related to patient management. We offer some suggestions on how to progress these activities from a starting point of very collaborative to more individual responsibility with continued opportunities for peer-to-peer learning.

Early Clinical Experiences

Activity	Progression → → → → →			
Chart Reviews	As a team (CI, students)	Students together without CI	Students complete individually, share with each other and CI	Students complete individually as per individual caseload
Determining and performing tests and measures	As a team (CI and students)- collaborative patient care	Students perform on patient together with CI assistance	Student performs individually on patient; 2 nd student may observe, provide feedback; CI provides feedback	Students determine T/M and perform individually as per individual caseload
Determining patient diagnosis and prognosis	As a team with CI leading discussion	As a team with students leading discussion; CI answering questions as needed	Students determine diagnosis and prognosis individually; sharing with each other before asking for CI feedback	Students determine diagnosis and prognosis individually as per individual caseload
Designing intervention strategies	As a team with CI providing ideas and parameters	Students collaborate to determine intervention strategies for shared patients with CI providing guidance	Students individually design interventions, provide feedback to each other; CI serves as resource as needed	Students design intervention strategies individually as per individual caseload

Caseload examples depending on each student's ability and learning objectives for clinical rotation, clinical setting and patient census

Week 1-2	Week 3-4	Week 5-6	Week 7-8
1-2 patients each	2-4 patients each	4-6 patients each	6-8 patients each
2-4 patients as a team	4-6 patients as a team	2-4 patients as a team	1-2 patients as a team

Intermediate – Final Clinical Experiences

Activity	Progression → → → → →			
New patient evaluations	Students co-evaluate and design POC together	One student takes lead on evaluation; 2 nd student observes and takes lead on documentation	Students lead initial evaluations independently with CI supervision and document individually; CI engages students in collaborative learning/sharing of ideas	
Returning patients/daily encounters	Students co-treat and co-document with CI assistance/supervision	Each student is assigned the “lead” on a patient encounter; 2 nd student is assistant and leads documentation	Students individually lead patient encounters with CI supervision as needed; CI engages students in collaborative learning/sharing of ideas	
Documentation	Students document together with CI assistance	Students alternate taking lead on documenting shared patients	Students individually complete documentation; CI engages students in collaborative learning-reviewing each other’s notes, providing feedback etc.	

Caseload examples depending on student’s ability and learning objectives for clinical rotation, clinical setting and patient census

Week 1-4	Week 4-8	Week 8-12	Week 12-16
2-4 patients each	4-8 patients individual	8-10 patients each	10-12 patients each
2-4 patients as a team	2-4 patients as a team	1-patient as a team Or Case study	1-patient as a team Or Case study

Addressing Potential Challenges with Collaborative Model

Participating in the collaborative model can present some challenges with regards to structuring the experiencing, progressing the students, and balancing individual student needs with collaborative teaching. The following offers some suggested strategies when faced with challenges that may arise during a collaborative model experience.

Low Census:

Low census situations can be a challenging situation when teaching within the collaborative model. Clinical Instructors can have difficulty identifying learning opportunities for students, and students may view the decrease patient contact as a detriment to learning. It is important to challenge students to learn individually and collaboratively and to continue to reinforce with students that learning can occur in a clinical environment separate from direct patient experiences. The following section provides some ideas for learning experiences that can be utilized during low census times when teaching within a collaborative model:

1. Co-treatments by students:

- Even if students have been seeing patients independently, they can still learn during co-treatment situations.
- The students can be provided with specific roles that will keep both students engaged during the session, even if they are not the “lead” PT.
 - If the students are in an early clinical experience, consider designating roles that are consistent with sections of the patient encounter (i.e. subjective history, exercise prescription, patient education, etc.).
 - If the students are in a later experience or at a higher level of knowledge, consider roles that facilitate critical thinking. This could include charging one student with developing an alternative plan for the session or finding evidence to support the current plan of care.
- Documentation can also be a learning experience when students are co-treating. Consider having students document together if earlier in the experience, or consider having the students complete a note separately for the same experience and then providing feedback to each other.

2. Mini-Rounds

- Ask each student to select a patient from his or her caseload and develop a mini-Grand Rounds presentation. The presentation can be as general or specific as you would like.
- You may consider the level of the student, the challenges each student might be having, or the complexity of the patients. For example, perhaps one student is continuing to struggle with discharge planning, so that student’s presentation will focus on how the discharge plan has been determined, the environmental and personal factors that

influence the discharge plan, and the steps that are needed to successfully implement the plan.

- Other ideas include having the students support their plan of care through evidence, to describe in detail the plan for POC progression, or any other aspect of the patient case that either you or the student determines to be of interest.
- This activity provides the students opportunity to critically reflect on their patient management, to search the evidence, and to practice professional communication with others.

3. Paper patients

- It may be helpful to have a “library” of paper patients that can be used in times of low census or “down-time.”
- The cases can be worked on individually by each student and then presented for feedback and discussion, or the students can work through cases together.
- Consider using these cases as a way to highlight unique aspects of your setting or patient population- perhaps complex discharge planning, high-level athlete and exercise progression, mobilizing patients in an ICU setting, etc.

4. Splitting students between clinicians

- Consider if there are opportunities for students to spend individual time with other therapists in the clinic or department for a half-day, full day, etc.
- The objective would not be for the student to carry a separate caseload on these days but to share the caseload with the therapist.
- Students have the opportunity to learn from therapists that may have a different approach to patient care and have specialty areas of practice.

Performance Differences Between Students

While the collaborative model is an excellent opportunity for peer learning, the students will still progress in the clinical experience on an individual path. This may mean that one student achieves expectations faster than another, or one student exhibits significant challenges. The following provide some ideas on how to manage these situations:

1. Note specific behaviors and set individual goals

- It is important to have consistent opportunities to work individually with each student and to provide/receive feedback individually with each student. This will help in distinguishing the learning needs of each student.
- If the students begin to diverge from each other in performance and/or behavior, it will be important determine where the learning needs are. Consider using the Professional Behaviors of the 21st century document (see appendix?) to determine performance

levels related to Professional behaviors. This may help in setting specific goals related to behaviors and put a “name” to the gaps in behaviors.

- If the divergence is more related to clinical skill or knowledge, consider noting the domain of learning (cognitive, psychomotor, and affective) where the performance is challenged.
- Setting specific and individual learning goals for each student will assist you in providing appropriate feedback, supervision, and progression of caseload dependent on the student’s needs.

2. Give assignments and homework specific to each student’s needs

- If the students have different learning needs, don’t be afraid to give homework or other assignments, and to make those assignments different for the students.

3. Highlight strengths of each student

- Avoid comparing students and their performance.
- Despite different performance levels and learning needs, continue to seek out ways to facilitate peer learning. Identify strengths that each student brings and highlight those strengths in group discussions, debriefings, etc.

4. Consider a back-up CI

- If one student is requiring a significantly more amount of time for supervision, teaching, feedback, etc., having a back-up instructor available to work with the other student is helpful.
- This second CI may come on full-time with the second student if necessary, or could work part-time with the student. Additionally, the second CI may also be someone that provides a unique learning opportunity, or has a more complex caseload that would allow greater challenge to the student who is progressing faster in the experience.

5. Communicate with the school

- Maintain open lines of communication with the academic program regarding each student’s performance, as well as challenges you are facing managing each student’s needs.
- The academic program may be able to offer suggestions for teaching strategies on an individual student basis as well as in the context of the collaborative model.

Behavior and Learning Style Differences between Students

Collaborative learning can be challenged when students have different learning styles or conflicting professional behaviors. While the academic program may try to pair students together based on some of these factors, it is not always possible to predict how two students will work together through a longer-full time experience. Additionally, if your site pairs students from two different programs, this is

also a challenge that can arise without having any preparation. Some strategies to consider when dealing with this kind of conflict include:

1. Review Learning style information prior to experience
 - If the students provide information regarding their learning style in an introductory communication, this is a good opportunity to reflect on how you might create learning experiences that will match both students.
 - If the students have different learning styles, plan to discuss in the first week what your expectations are. For example, you may consider highlighting that, while you are aware of their learning styles, you also expect the students to accept the challenge of learning outside of their “comfort zone.”

2. Discuss expectations
 - Reinforce with the students that one key characteristic of an adult learner is recognition of how other’s experiences and perspectives can contribute to your own growth
 - Be explicit in your feedback regarding professional behaviors, particularly in the area of respect and communication

3. Turn focus back to learning
 - Reinforce the learning and performance expectations of the clinical experience
 - Be explicit in how behaviors may be impacting ability to meet those expectations

Appendix 1:

Sample Collaborative Model Contract

Collaborative Model Contract

A collaborative clinical education model is defined as 2 or more students working together under the supervision of one primary clinical instructor. I understand I will participate in a collaborative model throughout my clinical education experience at: NAME OF CLINICAL SITE.

The expectations of the collaborative model and expectations of this clinical experience have been discussed and I understand the expectations of myself, my fellow student colleague(s), my primary clinical instructor and the SCCE.

Student Signature

Date

SCCE/CI Signature

Date

Appendix 2:

Sample Weekly Reflection Sheet for Collaborative Model

Weekly Reflection and Feedback Form

Student Name: _____

Week # _____

1. Areas Improved – Over this past week, I have improved in the following areas:

- a.
- b.
- c.

2. Areas for Future Growth – Identified areas I will continue to develop during this clinical affiliation.

- a.
- b.
- c.

3. Individual Goals for Next Week – Measureable goals for the next week to address the targeted areas of future growth, including specific action steps that will be taken in order to attain this goal.

- a.
- b.
- c.

4. Team Activities for Next Week- Learning activities or strategies to be performed with my student peer to facilitate learning, growth, etc.

- a.
- b.
- c.

5. Feedback for my Clinical Instructor – Identify beneficial ways your CI has facilitated your learning and what changes could be made in teaching and / or communication to support a more optimal clinical learning environment.

- a.
- b.
- c.

6. Things that will facilitate my learning:

	More supervision (interaction with me and patient during treatment session)
	Less supervision to allow me to experience more independently
	More positive feedback
	More constructive feedback
	More feedback during treatment session
	Feedback after the treatment session
	More time to for collaboration and/or peer-to-peer learning with the 2 nd student
	More time for my CI to explain things to me
	Additional learning experiences such as:
	Other:

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