Manuscript Title:

Enhancing Patient Services: Transforming a Student-Run Physical Therapy Pro-Bono Clinic

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Abstract

Background. Doctor of Physical Therapy (DPT) students at The University of South Florida provide pro-bono physical therapy services to the university area's underserved community. Annual student leadership turnover and weekly rotation of students and clinical preceptors disrupted continuity of care, prompting student leaders to initiate a program improvement effort. **Methods.** An iterative quality improvement process guided by input from DPT faculty, alumni, and students informed program changes. Anonymous electronic surveys with ordinal-scale and open-ended questions were distributed at three time points to assess participation barriers, care delivery, and the impact of program changes. Survey results guided adjustments to leadership and treatment team structure and communication strategies. **Results**. In the initial survey, participants reported lack of preparation, unclear expectations, inadequate communication, and inconsistent care continuity were key barriers. In response, leadership and treatment teams were restructured, incorporating a peer-assisted learning model. A follow-up survey showed that 68% of students and 100% of preceptors perceived improved care continuity. Survey responses also noted a continued need to improve goal setting, documentation, and communication. A centralized communication hub and standardized documentation templates were introduced to

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address these challenges. Final survey results indicated students valued hands-on experience and peer-assisted learning, reporting increased self-confidence and perceived care continuity. Remaining challenges identified by both students and preceptors included goal alignment and treatment team collaboration. **Conclusions.** Participant survey responses suggest perceived improvements in care quality and operational efficiency following the restructuring. The central insight from this project is that intentionally redefining roles and implementing a peer-assisted learning model across leadership and treatment teams enhanced clarity, collaboration, and student ownership. These findings support the value of peer-assisted learning models in student-run clinics. Ongoing efforts aim to strengthen this model to improve clinic operations while expanding interdisciplinary collaborations and PT services for the underserved populations.

Background

Student-run pro-bono clinics provide healthcare services to underserved communities and foster collaborative, hands-on, culturally informed learning.[1-6] Many individuals seen in these clinics have complex medical and functional needs, compounded by poverty and unemployment.[7-9] At the University of South Florida (USF), Doctor of Physical Therapy (DPT) students provide free physical therapy (PT) services through the interdisciplinary BRIDGE clinic, which serves the surrounding underserved community, supporting functional mobility, wellness, return to work, and reducing financial strain. [10-12]

Like other student-led clinics, PT BRIDGE faced challenges from annual leadership turnover and weekly rotation of student care providers.[3,13-15] Previous studies have addressed these challenges through standardized operational procedures and structured leadership

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training.[14,15] In PT, however, the longitudinal nature of care, with multiple visits over weeks, makes frequent team changes especially disruptive to care continuity, therapeutic relationships, and student learning. Recognizing this, PT BRIDGE student leaders examined clinic operations and student roles to identify opportunities for improvement.

Initially, third-year students led both leadership and treatment roles. Leadership was shared between two co-directors, with 12-13 third-year students managing nightly clinic operations under faculty supervision. Unlike other student-run clinics where participation is voluntary, treatment team roles at PT BRIDGE were mandatory, scheduled in advance to meet curricular requirements, while leadership roles remained voluntary. This structure, combined with the DPT program's curriculum sequencing, limited first-year participation and reduced collaboration between second- and third-year students, constraining peer-assisted learning. Weekly turnover of students and clinical preceptors posed challenges to care continuity and communication, contributing to inconsistent care delivery and difficulty sustaining clinic initiatives. Annual leadership transitions compounded these issues. New student leaders were elected in late fall to early spring of their second year in the DPT program, coinciding with the departure of third-year students for final clinical rotations. Incoming leaders faced a steep learning curve with limited mentorship from outgoing student leaders, resulting in confusion about clinic operations and protocols, loss of institutional memory, and breakdowns of communication. These challenges appeared to disrupt care continuity, hinder program initiatives, and contribute to declining student participation.

In March 2020, PT BRIDGE suspended in-person operations due to the COVID-19 pandemic.[16] During this time, student leaders reviewed clinic operations and service delivery, researched leadership and treatment team models from other student-run PT clinics, and

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developed surveys to identify participation barriers, initiating a quality improvement effort. In-person care resumed in August 2021. This report describes the student-led, iterative approach to assessing and strengthening clinic operations and care delivery.

Methods

Participants

This project followed an iterative, continuous quality improvement process (Figure 1). Key stakeholders, including DPT faculty, alumni, and students from all three cohorts, provided input to identify participation barriers and opportunities to improve care delivery. Although first-year students had limited clinic experience before the COVID-19 shutdown, they were included in the initial survey to capture baseline perceptions and anticipated barriers to participation. As these students progressed, they completed the follow-up surveys alongside second- and third-year students, who had more extensive clinical involvement. The University of South Florida Institutional Review Board granted exempt status for this program improvement project.

Program Improvement Process

To guide program improvements, anonymous electronic surveys were administered at three time points. Surveys used branching logic to deliver role-specific questions, and the same format and structure were maintained across all three administrations. Surveys combined ordinal (Likert-scale and ranking) and open-ended questions, capturing feedback on leadership, treatment roles, and communication within the clinic. Pilot feedback was gathered from the student leadership board and DPT faculty with expertise in qualitative research before survey distribution.

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Initial Survey (November 2020)

A 15-item survey was distributed via Qualtrics Online Survey Software® (Qualtrics LLC, Provo, Utah) to 18 DPT faculty, 110 program alumni, and 142 current students. Students completed all 15 questions; alumni and faculty answered 7-9 role-specific questions. This survey assessed perceptions of motivations and barriers to participating in leadership and treatment roles.

Follow-up Survey (March 2022)

After 7 months of implementing initial changes, a follow-up survey was distributed to all three student cohorts and participating faculty and clinicians. Students answered 9 role-specific questions; clinical preceptors answered 11 questions. It assessed perceptions of the peer-assisted learning approach in leadership and treatment roles and communication within treatment teams and between leadership and treatment teams. Clinical preceptors were asked about the impact of the changes on the overall care provided, while students described how returning team members influenced both care delivery and their professional development. Results were used to guide further adjustments to clarify treatment team member roles and streamline communication processes.

Final Survey (June 2023)

The final survey assessed perceptions of cumulative changes. Students completed 12 role-specific questions; clinical preceptors answered 9 questions. Topics included clinical preceptors' views of students' application of evidence-informed care and students' self-

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reflections on development in examination, treatment planning and implementation, goal setting, and clinical decision-making skills.

Data Analysis

Ordinal-scale data were analyzed in Microsoft Excel (Version 16.0) using descriptive statistics (frequencies and percentages). Open-ended responses were analyzed using a descriptive approach informed by content analysis methodology.[17,18] Recurring themes were collaboratively identified and refined to capture key insights into perceived barriers to participation and potential areas for improvement.

Results

November 2020 Results and Program Modifications

Thirty-two of 110 alumni (29%), 18 of 18 faculty (100%), and 114 of 142 enrolled students (80%) completed the initial survey. Commonly cited barriers to participation across stakeholder groups included lack of preparation, unclear expectations, and inadequate communication. Eighty-two percent of faculty and 46% of students rated student preparedness as "fair," while 45% of faculty and 33% of students rated communication between preceptors and student treatment teams as "fair." Open-ended comments highlighted concerns about care continuity and treatment team communication. One faculty noted, *"More continuity in care; it seems like the students re-eval every time and the plan of care changes due to lack of communication."* A student stated, *"More communication between teams from week to week,*" and another added, *"More consistency, improved note writing and communication between student teams are needed."* Based on these findings, the leadership team prioritized modifying the clinic's leadership and treatment team structures and streamlining communication channels.

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Shift in Organizational Leadership Structure

To improve communication and clarify expectations, the clinic's leadership was reorganized (Figure 2). Two key student director roles were created: Director 1 oversaw staffing, scheduling, and referrals, and Director 2 managed clinic operations, outcomes, and outreach activities. A new leadership role was added to standardize documentation, oversee clinic outcomes, and support the delivery of evidence-informed care. Other leadership roles were organized into functional committees, each led by a chair responsible for project management and communication with the leadership team. To address annual leadership turnover, elections shifted to the second semester of year one in the DPT program, creating a leadership team that included students from all three cohorts to promote smoother transitions and continuity.

Faculty leadership was also expanded to include a clinical faculty member from USF's orthopedic PT residency program. The academic faculty advisor served as administrative director, guiding Director 1 with clinic staffing, client referrals, and scheduling, while acting as a liaison between the university, BRIDGE Clinic, and students. The PT resident became clinical operations director, mentoring Director 2 in clinic operations and outcomes (see Figure 2).

Student Treatment Team Structure and Expectation Transitions

To address breakdowns in communication and care delivery, the treatment team structure was reorganized. The new design adopted key features of team structure and communication practices modeled by Widener University's student-run PT clinic (Figure 3).[19,20] Peer-assisted learning principles were embedded to promote a culture of mentorship, inclusiveness, and shared

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learning.[2,21-23] The primary goal was to improve care continuity and quality while creating a more positive, inclusive educational experience for students. Treatment teams included first-, second-, and third-year students. Senior students assumed teaching and mentoring roles, supporting junior students' skill development and promoting a collaborative learning environment. To maintain continuity of care, the senior student returned the following week.

March 2022 Results and Program Improvements

In the March 2022 follow-up survey, 81 of 98 (83%) participating students and 6 of 11 (55%) clinical preceptors responded. Sixty-eight percent of students and 100% of clinical preceptors agreed that the revised treatment team structure improved care continuity.

While feedback on the peer-led treatment team approach was generally positive, participants noted areas for further improvement, including internal communication, role clarity, documentation, and goal setting. For example, one student stated, *"Give more instruction of what exactly our role is with the patient when we come back for the second session."* Another commented, *"As a first year, I really have no idea what I'm supposed to be doing or getting from this experience."*

Enhancement in Care Delivery

In response to concerns about student preparedness and care delivery consistency, a centralized communication hub was created in the DPT program's Canvas platform (Instructure Inc., Salt Lake City, Utah). Student leadership posted tutorials on clinic procedures and navigating the EMR documentation system and provided links to clinical practice guidelines, documentation templates, and recommended outcome measures for best practice.

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Despite the improvements in treatment teams and centralized communication, students still struggled with goal setting and care plan progression. To address these challenges, treatment teams held pre-clinic meetings to streamline the treatment plans, and standardized documentation templates were added to help treatment teams track visits and progress toward goals.

The academic faculty advisor, in collaboration with the DPT program's Director of Clinical Education, developed targeted class assignments and self-reflection activities to strengthen students' clinical reasoning and their ability to deliver evidence-informed care, emphasizing best practice in examination, intervention, and documentation.

Recognizing that both peer and clinician mentorship are important for fostering student development and improving care delivery in student-run clinics,[24,25] PT BRIDGE restructured its supervision model to expand mentorship opportunities. Initially, one or two faculty members supervised all clinic operations and patient care each week, which limited the guidance available to students and the services they could provide. To address this issue, additional clinical preceptors from local clinical partners and the USF DPT alumni network were recruited, beginning with alumni who expressed interest in serving in the initial survey. The supervision model was revised to assign clinical preceptors to provide one-on-one direct supervision to treatment teams, enhancing care consistency and mentoring students in goal setting, treatment planning, and progression.

June 2023 Results

In the final survey, 58 of 138 (42%) participating students and 9 of 18 (50%) clinical preceptors responded. Students described in their open-ended survey responses that hands-on experiences reinforced their classroom learning. Several noted that the peer-assisted learning

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model provided a comfortable and supportive environment that fostered self-confidence, teamwork, and collaboration. For example, one student shared: *"As a first year student it was helpful to work with 2nd and 3rd year students to treat patients. It's helpful to work with other students to share ideas and how to best treat our patients."* Another added, *"Communicating with team members and agreeing on a plan of care that was effective or helpful for the patient and their goals was a great way to boost clinical reasoning confidence."*

Participants praised the peer-led treatment team approach and standardized documentation templates for improving continuity of care, while also identifying a need to better align session goals and functional outcomes with the initial examination and treatment plan. For example, one clinical preceptor shared, *"Having treatment teams with various students made it challenging, especially if the students did not collaborate prior to the BRIDGE night. The uncertainty of the students at times led to fair written goals, POC, etc."* Students across all three cohorts highlighted the need for better coordination among treatment team members before clinic nights, particularly to develop treatment plans and clarify each member's role and expectations. As one student explained, *"These plans of care and goals were updated weekly, but I felt nobody kept the same plan week to week."*

Lessons Learned

Findings suggest that effective clinic operations rely on an organized leadership team and transparent communication. To address communication challenges, the leadership team prioritized effective knowledge transfer and mentorship during transitions. Centralized communication through Canvas kept all stakeholders informed. These measures coincided with smoother leadership transitions and supported clinic standards and attention to patient care.

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Challenges with student engagement at PT BRIDGE were like those reported in other student-run medical clinics, despite treatment participation being a required component of the curriculum.[3,13,26] Time constraints and academic pressures limited students' involvement, with few volunteering beyond their scheduled shifts. Given that participation in patient care is mandatory, some of the challenges with limited engagement beyond required hours and inconsistent investment in clinic initiatives may reflect the tension between curricular obligations and intrinsic motivation. Reframing BRIDGE as a valuable opportunity for hands-on learning and skill development could help address these engagement challenges. Embedding related learning activities in other courses, such as those on practice management and health promotion and wellness, could strengthen connections to the broader curriculum.

While the peer-led treatment team model was positively received and improved collaboration and care continuity, feedback indicated that students would benefit from additional training in mentorship and constructive feedback skills. This aligns with prior studies showing structured training in peer teaching, mentorship, and feedback techniques enhances students' confidence, effectiveness, and the educational value of peer-assisted learning experiences.[27-29] Incorporating such training into the professional competency courses in the DPT curriculum may further strengthen the model and foster engagement.

Despite restructuring the treatment teams and improving communication, students continued to struggle with treatment plan development and progression, often due to limited client interaction confined to a single visit. The returning senior student role was intended to address this issue, but feedback suggested insufficient mentoring limited their impact. Based on survey feedback and discussions with other student-led PT pro-bono clinics, having student

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teams follow clients throughout the entire episode of care is a promising approach to deepen students' understanding of client needs and enhance care continuity.

Next Steps

Ongoing efforts focus on refining treatment team roles, enhancing client outcomes, and expanding interdisciplinary collaborations. Planned efforts to strengthen partnerships between DPT faculty and student leaders aim to align educational goals and integrate classroom learning with clinical experiences, helping students view participation as meaningful study rather than an added obligation. Training and mentorship initiatives are planned to support peer guidance in treatment planning, documentation, and outcome analysis to improve care quality. The team is also exploring alternative care models, including assigning teams to follow clients throughout their care episode. Finally, student leaders are working to broaden interdisciplinary collaborations to expand BRIDGE's health and wellness services and educational offerings, supporting the clinic's development as a dynamic learning environment that fosters student engagement and improves care for the underserved community.

Conclusions

Guided by stakeholder input, PT BRIDGE restructured its leadership and treatment team frameworks to center on peer-assisted learning. This redesign fostered collaboration across all three student cohorts in leadership and clinical roles, improving communication, documentation, and care delivery. These changes have strengthened treatment team coordination and care delivery, resulting in greater consistency and efficiency. Recognizing peer-assisted learning as

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the foundation of these improvements, the team continues to refine and build on this model to sustain and enhance clinic operations.

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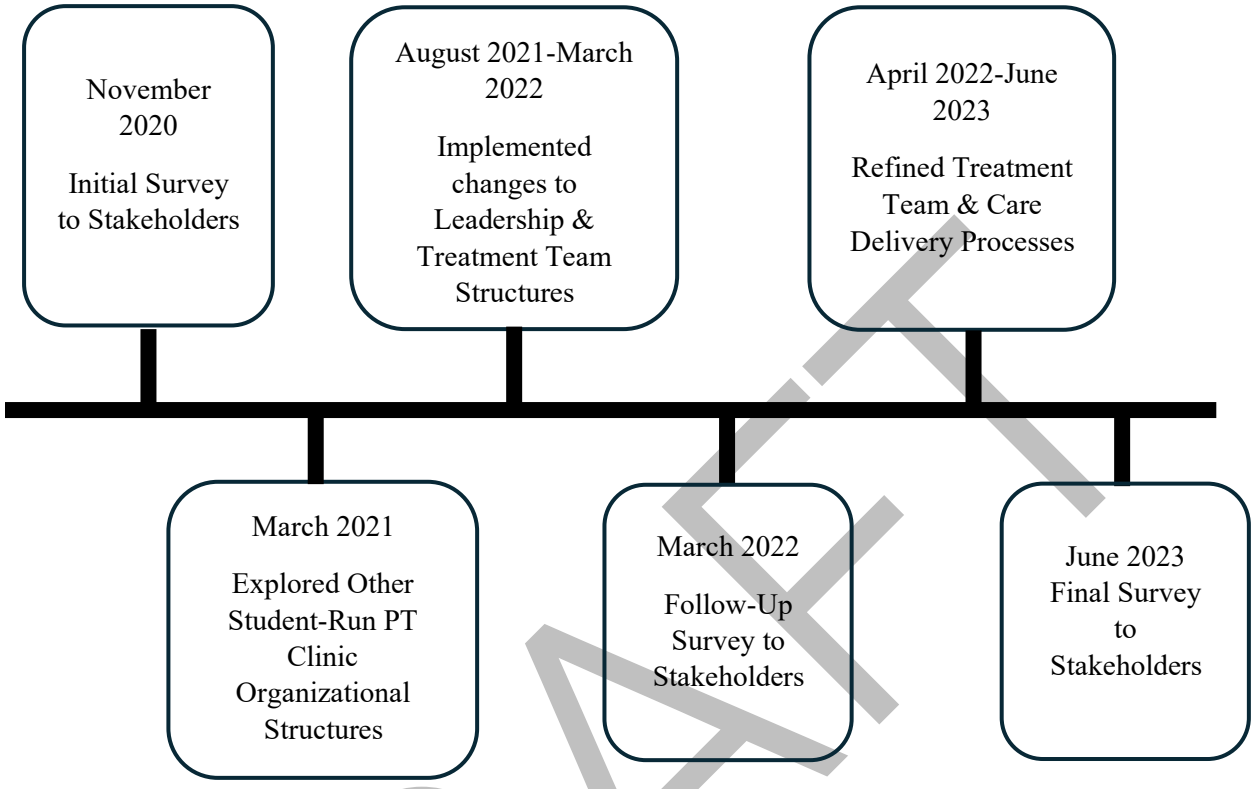
Figure 1. Program Improvement Process



Description of iterative program improvement process timeline

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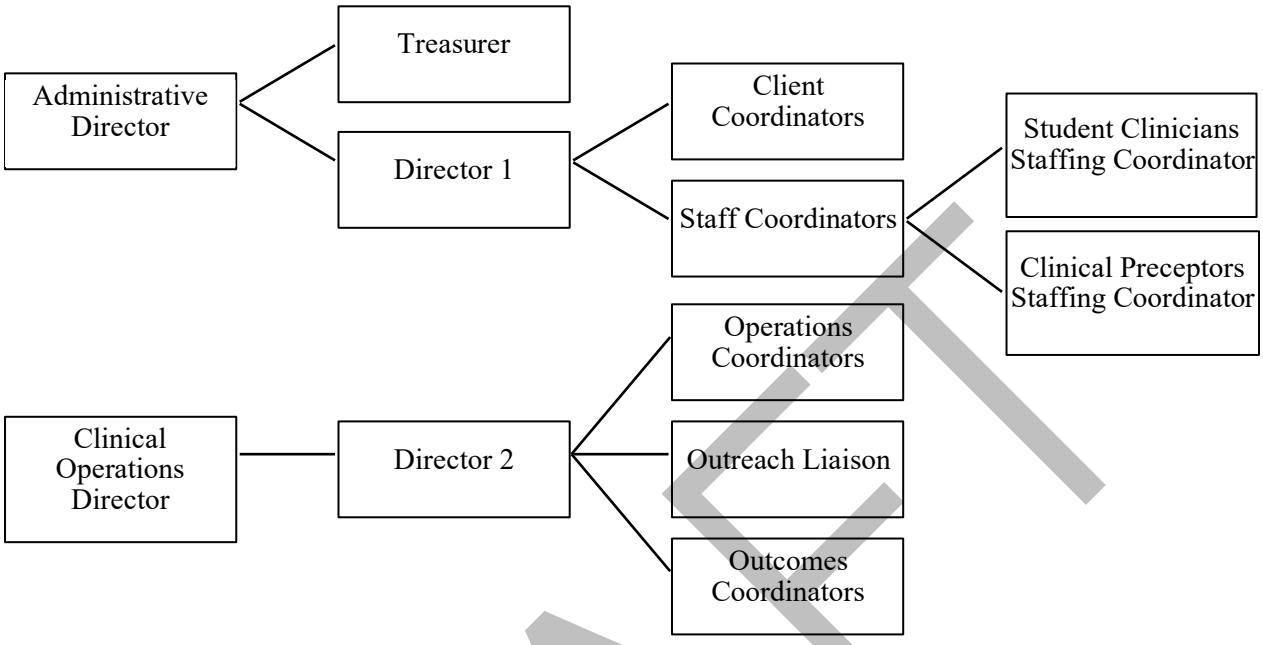
Figure 2. Organizational Leadership Structure



Description of revised organizational leadership structure

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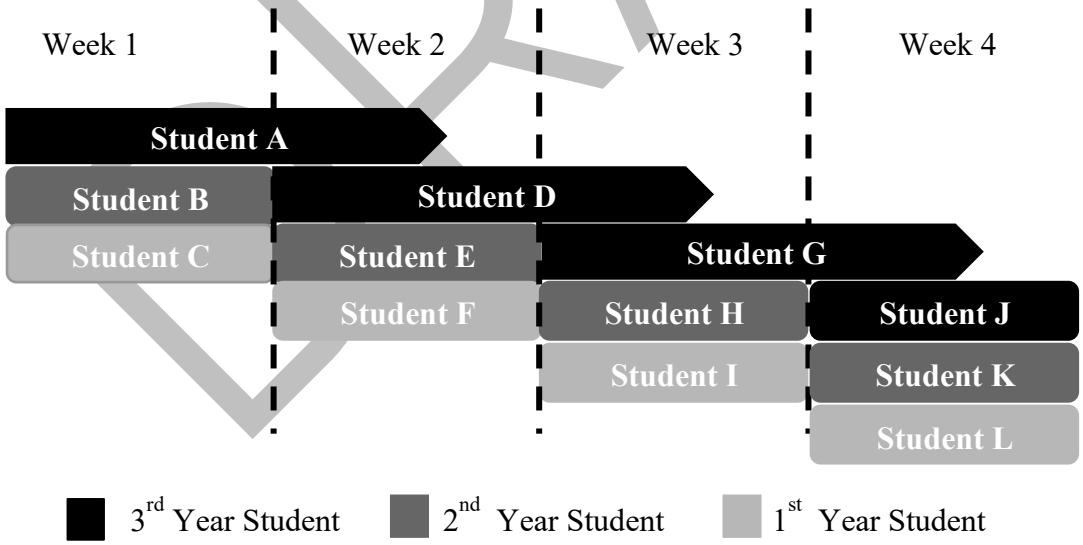
Figure 3.Treatment Team Model



This figure illustrates the revised approach to care delivery in which the more senior team member returns to participate in the patient's subsequent visit.

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