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Opinion

Podiatry Residents on an Inpatient Addiction Consult Service

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Abstract

Podiatry residents may benefit from addiction medicine rotations due to substantial overlap between podiatric needs and substance use disorders (SUDs), particularly in the hospital setting. In a semi-structured format, we describe the cases of two podiatry residents, perhaps the first ever documented, who rotated with an inpatient addiction medicine consult team at an urban, academic hospital. These two residents joined the addiction consult team in 2023 and 2024 and rated their confidence in twelve learning objectives via a five-point Likert scale before and after the rotation (2 weeks long). They also rated their attitude toward the value of addiction services. Post-rotation feedback from the module and ad hoc e-mail correspondence are included. Residents 1 and 2 joined the team and engaged well in orientating with the team, eventually providing near-independent addiction medicine consultations for primary inpatient teams. Pre/post data showed large increases in confidence in learning objectives (mean scores 2.1 to 4.9 for Resident 1, and mean scores 1.5 to 4.0 for Resident 2). They both reported positive experiences, and months later reflected on both pragmatic (e.g., available resources) and attitude-related (e.g., understanding the importance of substance use context for patients) educational gains. In summary, residents from surgical specialties like podiatry may benefit from inpatient addiction medicine exposure. It is unclear whether their rotation spots could be better utilized by those in other specialties, but SUDs are prevalent in a multitude of settings, arguing for broad dissemination of SUD treatment education.

Keywords: resident education; addiction medicine; substance use disorder; consultative medicine

1. Background

Substance use disorders (SUDs) have reached epidemic proportions, underscored by U.S. drug overdose deaths exceeding 100,000 in 2021 [1], a 28.5% increase compared to the prior year [1]. In response, addiction medicine training in North America has expanded—though perhaps insufficiently [2]—and many residency programs such as internal medicine now require addiction medicine clinical experience for accreditation [3]. Many other related programs such as family medicine and psychiatry have addiction-related components as well. Yet even surgical residencies such as podiatry include a behavioral medicine requirement and may benefit from exposure to the specialty of addiction medicine. In this special communication with a semi-structured case-report format, we report on two residents from podiatry who opted to rotate with an inpatient addiction consult team to fulfill their program's behavioral health requirement. We believe these to be the first ever documented cases of podiatry residents participating in this particular type of training experience. Our intention is to highlight its feasibility and emphasize clinical overlap between the fields of podiatry and addiction medicine.

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Annually, our urban, academic hospital handles about 25,000 admissions, with over 4000 related to opioids or alcohol. About 12% of inpatient encounters in 2023 with podiatry consult orders (n = 965) also had an addiction medicine consult order completed (n = 106). And when looking exclusively at encounters among unhoused patients with podiatry consults (n = 402), the percentage with concurrent addiction consultation was about 26% (n = 84), emphasizing the bidirectional and mediating roles of substance use and environmental exposure with lower extremity pathology in the absence of shelter.

The two podiatry residents' rotations on the inpatient addiction consult team were 2 weeks long (Monday through Friday), occurring in 2023 and 2024 [4]. This consult team is among the most consulted physician-based team in the hospital. Residents spent time orienting, evaluating patients with an attending physician (board-certified in addiction medicine), coordinating care with team social workers and external teams, and learning via informal discussion and structured whiteboard-based mini-lectures.

Data were obtained via an online module developed in a secure database (REDCap) [5] that included orientation elements as well as an assessment of learning objectives (Table 1). Consent to collect data was obtained in this module. Subjects reported their degree of confidence (1–5 Likert scale, with 1 = "not at all" and 5 = "very") in objectives at the beginning and end of their rotation. They also answered a question (0–100 slider format) on their degree of disappointment if their future organization did not offer addiction medicine services, a proxy for perceived value. Free-text feedback was obtained at the end of their rotation. Ad hoc e-mail correspondence occurred several months following completion of their rotation for further consent to publish and for additional comments. Quotations are included with slight editing for clarity.

Table 1. Resident confidence ratings of learning objectives at beginning and end of rotation. Likert scale 1–5, with 1 = "not at all", 3 = "somewhat", and 5 = "very".

	Resident #1			Resident #2		
Learning Objectives	**Pre**	**Post**	**Change**	**Pre**	**Post**	**Change**
1. Diagnose a severe substance use disorder in the hospital setting	4	5	+1	2	4	+2
2. Interpret a basic urine drug screen in a hospitalized patient	4	5	+1	2	4	+2
3. Compare and contrast 3 medications for alcohol use disorder	1	5	+4	1	4	+3
4. Compare and contrast 2 medications for opioid use disorder	1	5	+4	1	4	+3
5. List a differential diagnosis for a patient with agitation and/or sedation in the context of substance use	3	5	+2	2	3	+1
6. Describe differences between front-loading, symptom-triggered, and fixed schedule strategies in alcohol withdrawal	2	5	+3	1	4	+3
7. Discuss whether and now to order buprenorphine in settings of acute pain	1	5	+4	1	3	+2
8. Brainstorm 3 ways stimulants are experienced as functional to those who use them	3	5	+2	2	5	+3
9. Counsel a patient who injects drugs on safer use	2	5	+3	2	5	+3
10. Demonstrate 2 types of reflections consistent with motivational interviewing	1	4	+3	1	4	+3
11. Describe a patient that would be appropriate for residential addiction treatment according to American Society of Addiction Medicine (ASAM) criteria	1	5	+4	1	4	+3

Table 1. *Cont.*

	Resident #1			Resident #2		
Learning Objectives	**Pre**	**Post**	**Change**	**Pre**	**Post**	**Change**
12. Discuss barriers to post-hospital linkage to the appropriate addiction care level	2	5	+3	2	4	+2
Mean	2.1	4.9	+2.8	1.5	4.0	+2.5
Standard deviation	1.2	0.3		0.5	0.6	

These cases are derived from a larger project that was reviewed by the Quality Improvement Review Committee of Denver Health (QuIRC), which is authorized by the Colorado Multiple Institutional Review Board at the University of Colorado, Denver (COMIRB), and was determined not to be human subject research. As such, the project did not require IRB review. Demographic details are omitted to further protect residents' privacy.

2. Cases

Resident #1 joined the team in 2023 and was understandably apprehensive with what to expect. However, she quickly adapted to the workflow and mindset. There was at least one patient she consulted on during the rotation that she had admitted the prior weekend while taking podiatry call. In post-rotation feedback, she stated, "Very informative and helpful! Genuinely learned a lot and all learning objectives met. Appreciate the daily table rounds and integrating as a part of the whole team." She answered 90 out of 100 (post-rotation) to the question related to perceived value of addiction services. See Table 1 for complete pre-post learning objective data.

Approximately 9 months post-rotation, Resident 1 mentioned in correspondence (with the prompt "Any additional comments you'd like to provide now that many months have passed"):

> "It truly was a beneficial experience although at first I think we all weren't 100% sure what to expect. But it was surprising how many patients we had in common and how [the rotation] provided more context as to how our patients live/function and how that contributes to how we treat them. . ."

Resident #2 had received some preparation from Resident 1 and was able to integrate into the team expeditiously. In post-rotation feedback she stated, "I thought this was a great rotation! Very well structured to [learners] rotating. . .Learned a lot from the clinical interview and enjoyed that a focus was placed on how this material may be relevant to the specific individual's future." She answered 40 out of 100 (post-rotation) to the question related to perceived value. Approximately 7 months post-rotation, Resident 2 corresponded:

> "The addiction rotation provided a lot of insight to our patient population and a better understanding for patient care. In general, it provided knowledge on community and hospital resources that can be provided to patients that may not have been offered initially. Understanding what the addiction team has to offer, I was able to ask primary teams to consult Addiction Medicine for social work concerns and medication management in the setting of pain control after being able to assess patients appropriately. It also helped to understand what a patient may be experiencing and provide a treatment plan that may consider the implications of coinciding addiction that I did not fully understand prior to rotating on the service. . .I would highly recommend a rotation on Addiction Medicine for Podiatry residents."

3. Discussion

We presented the cases of two podiatry residents who rotated with our service. They may be the first ever documented to rotate on an inpatient addiction medicine team. Large increases in confidence were seen in learning objectives related to medication management (#3, 4, 6, 7), motivational interviewing (#10), and treatment considerations (#11). Both practical and attitude-related aspects of the rotation were recalled even 7–9 months following the rotation.

Podiatric medicine and surgery residencies are accredited by the Council on Podiatric Medical Education [6] and consist of at least three years of postgraduate training in inpatient and outpatient medical and surgical management with a focus on foot and ankle pathology. In addition to achieving podiatric medicine and podiatric surgery competencies, residents must obtain competencies in other disciplines, including behavioral medicine. These non-podiatric rotations are designed to help residents assess and manage a patient's general medical status which, especially in inpatient settings, can include a SUD diagnosis [7]. Dr. Brandon Brooks, DPM, editorialized in JAPMA that podiatrists can "step up as a profession and heed the call to action," in terms of greater awareness of opioid use disorder and more judicious opioid prescribing [8].

In addition to clinical overlap between SUD and podiatry related to pain management, podiatrists commonly encounter conditions caused by SUDs. Psychoactive substances like opioids, alcohol, benzodiazepines, and stimulants can result in imbalance, lack of coordination, and alterations in consciousness, significantly increasing the risk of traumatic injury (including to lower extremities) [9]. Injection drug use can result in lower extremity abscesses, not uncommonly with Methicillin-Resistant Staphylococcus Aureus [10]. Drug and alcohol use is also known to increase the risk of environmental exposure resulting in complicated frostbite injury to the distal extremities [11]. Alcohol-related neuropathy—a disorder in which the long axons that innervate the lower extremity undergo degeneration likely from the direct toxic effects of alcohol plus secondary nutritional deficiencies [12]—predisposes to myriad lower extremity insults and poor healing. Furthermore, in the post-operative period, adequate and safe pain management can become complex when an opioid use disorder (OUD) is present, a topic highlighted by multiple recent publications in JAPMA [8,13].

The intent of this special communication was to emphasize the clinical overlap of podiatric and addiction medicine and illustrate a novel educational experience received by two podiatry residents. This report is obviously limited by a small amount of data and participants, so extrapolation is limited. However, it is important to document the first occurrences of an educational innovation as a means of demonstrating feasibility, potentially justifying iterative implementation efforts in the future.

It is debatable how broadly the scarce training resource of inpatient addiction medicine consultations should be distributed. However, we found that residents from surgical fields like podiatry can engage with and benefit from this opportunity. Further research is needed to better understand which surgical fields encounter the highest burden of SUDs, perhaps targeting those residency programs for future inpatient addiction rotations.

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