

CASE STUDY

for U.S. health care providers

How Penn Medicine Centralized Its Fragmented Spine Referral Process

Multidisciplinary triage improves access and drives referral growth

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Overview

The challenge

Lack of multidisciplinary triage led to poor access and care variation for spine patients at Penn Medicine. Penn's electronic health record (EHR) system had six spine-related consult orders but offered no guidance on which of the four specialties involved in spine care best suited patients' needs. This fragmented referral process confused referring providers and barred patients from receiving timely, clinically appropriate appointments. Many needed to be re-referred to other specialties after their initial consult, which lengthened wait times to treatment and worsened the patient experience.

The organization

Penn Medicine is an academic health system headquartered in Philadelphia, Pennsylvania. The Penn Spine Center is staffed by 55 employed providers across four departments and operates at 6 hospitals and 14 multispecialty clinics.

The approach

Penn centralized the internal referral and triage process across its spine network. The newly created spine access team serves as a single entry point and triage mechanism for specialty spine care referrals from internal physicians and select external practices.

The result

Since launching the spine access team in 2018, the percentage of spine patients seen in less than 10 days has risen from 39% to 66%. Penn has also seen double-digit growth in appointment volume across all four departments.

Approach

How Penn Medicine consolidated its fragmented referral process

Penn centralized its fragmented referral process by creating a single channel for intaking and triaging internal physicians' referrals: the multidisciplinary spine access team. The team worked with Penn's physicians and advanced practice providers to design its protocols, securing their buy-in for the new system.

The three elements that drove Penn's success

Penn successfully built its spine access team by taking the following three steps:

01 Create a single Epic consult order for internal spine referrals

02 Implement multidisciplinary triage with physician input

03 Phase program rollout to maintain focus on access and quality

01 Create a single Epic consult order for internal spine referrals

Internal review of Penn’s referral pathways revealed the extent to which its fragmented referral process worsened spine access and care standardization. Penn’s four spine-related specialties (orthopedics, neurosurgery, physical medicine and rehabilitation, and pain/anesthesia) each received spine consult orders because referring physicians were given no guidance on where to refer patients. As a result, many patients were scheduled with a provider unsuited to meet their needs. Meanwhile, the EHR system in Epic had two spine-specific consult orders that were completely unmanaged. Referrals were getting lost in translation.

To standardize the process, Penn worked with its information systems and Epic teams to create a single order for all spine referrals. This “consult to spine care” now serves as an internal front door for spine patients. To avoid disrupting referral channels for non-spine patients that need specialty care, Penn left its specialty-specific consult orders intact.

Update to Penn’s spine consult orders in Epic

Old spine consult orders

- Consult to spine center (scheduled only to PM&R)
- Consult to ortho spine/back



New spine consult order

- Consult to spine care (all services)



1. CREATE A SINGLE EPIC CONSULT ORDER FOR INTERNAL SPINE REFERRALS

Regular physician outreach drives enduring support, utilization

The spine access team held meetings with over 40 Penn PCP groups while designing the new consult order, prioritizing groups who referred high volume through the old consult orders. Penn's goal for these meetings was to solicit feedback on PCPs' current and desired referral experience to drive utilization of the new consult order. The spine access team planned on using this feedback as an input for program design at its governance meetings.

Referring physicians worried the program would diminish their role in directing referrals. Many PCPs expressed interest in maintaining preexisting referral patterns. Specialist physicians—apprehensive about losing volume—shared this desire.

Penn accounted for this concern by allowing referring providers to request a specific specialist in the new Epic consult order. The spine access team honors all referrals by name to maintain preexisting referral patterns and secure buy-in from referring and specialty providers.

The spine access team has made its physician outreach ongoing by visiting PCP offices in affected areas each time it hires a specialist, opens an office, or adds a service. The team also reaches out to primary care groups when it notices a decline in consult order utilization. This ongoing communication makes referring providers feel valued and helps identify additional service quality improvements.

These efforts have helped Penn improve access and care continuity by having a dedicated team promptly review and manage all spine referrals. Central management also helps increase volume by simplifying the process for referring providers, making them more likely to refer to Penn's specialists.

02 Implement multidisciplinary triage with physician input

The spine access team triages incoming referrals using protocols developed by Penn’s multidisciplinary spine care committee, which is led by the neuroscience service line. Penn secured buy-in for centralized triage by including clinicians from across the spine care continuum on the committee.

Departments involved in setting Penn’s triage protocols

- Physical medicine & rehabilitation
- Orthopedic surgery
- Anesthesia/pain management
- Neurosurgery
- Primary care
- Social work
- Physical therapy

The committee meets monthly to review performance data from the updated EHR system, which it uses to inform further care standardization efforts. Leaders also use this data to distribute quarterly appointment volume by specialty, which keeps the broader spine network involved and prevents internal competition for volume. Regular data sharing helps reinforce a “one team” mentality across specialty groups that Penn believes will drive a more coordinated care continuum.



2. IMPLEMENT MULTIDISCIPLINARY TRIAGE WITH PHYSICIAN INPUT

Comprehensive triage ensures timely, appropriate appointments

Incoming referrals flow through the spine access team, which leads triage and patient outreach using the committee-designed protocols. The team is led by a nurse navigator with a background in neuroscience and a master's in health care leadership. This gives the team the clinical experience to triage appropriately and the operational ability to do so efficiently.

To triage patients, the team first considers referring physicians' specialist recommendation, sending all referrals to the requested specialist. When a consult order does not request a specific specialist, the team considers the referring physician's advice on type of care (surgical, injection, etc.) and the patient's chart to land on the appropriate specialty. It then uses an Epic questionnaire to secure more information from patients and referring providers. This questionnaire asks about the location of the patient's back pain and whether they've previously had spine care, among other things, to decide which specialist best suits the patient's needs.

For cases requiring clinical input beyond the spine access team's expertise, the team's clinical manager seeks input from physicians and advanced practice providers designated to support the process.

Rapid outreach drives satisfaction for patients and referring providers

Once the spine access team reaches a decision, it contacts the patient within 48 hours to schedule their appointment, aiming to meet the patient's needs in one call. The team also closes the referral loop by contacting the referring physician.

Ultimately, non-emergent patients have final say in choosing a provider, location, and time frame. This is a major change from Penn's old model, in which patients could visit only the provider they called directly. Opening scheduling to all relevant providers and locations has helped shorten wait times.

03 Phase program rollout to maintain focus on access and quality

Penn’s strategic trade-off

Rather than rolling out the program all at once, Penn focused first on better managing patients who had been evaluated and referred by its internal physicians. This protected capacity for specialists and the triage team, allowing them to focus on triaging pre-vetted patients with recent imaging and screening.

Limiting the referral pool required a trade-off. A public program would have attracted greater volume but could have undercut the program’s core goal of improving access and quality. Penn’s focused approach let it understand referral patterns and collect data to inform the next phase of the program.

Securing buy-in for program expansion

Starting the program with just internal referrals helped show its effectiveness to senior leaders and internal providers, which secured their buy-in for taking the program public. Self-referring consumers using the spine center’s “request an appointment” function on the website are now triaged and scheduled by the spine access team. Penn has also leveraged Epic’s PhysicianLink plug-in to extend the service to referrals from external primary care groups located in areas it is targeting for growth.

Senior leaders’ buy-in enabled Penn to continue expanding the program while maintaining its focus on improving quality and access. But focusing the initial referral pool did not stop Penn from growing volumes—it let Penn grow volume at a speed it could accommodate.

Results

Since it launched in 2018, the spine access team has achieved its goal of helping patients “get to the right spine provider, for the right type of spine care, within the right time frame.” And it has grown spine referrals in the process.

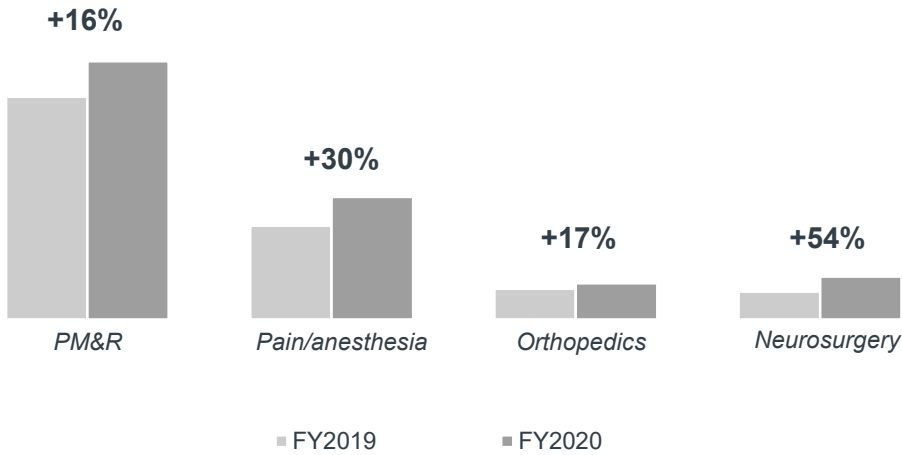
- **Faster access:** 76% of patients are scheduled within 48 hours of a referral being placed. The percentage of patients seen by a specialist within 10 days has risen from 39% to 66% since the program launched.
- **More clinically appropriate referrals:** 83% of referrals to the spine access team request a non-operative evaluation.¹
- **Increased referrals across specialties:** Referrals increased by 45% in the program’s first year—despite lower volume overall due to Covid-19. The number of physicians using the new consult order has risen by 48%, and Penn has received 1,294 self-referrals through its website. And despite the program’s high percentage of non-operative consult orders, all four specialties—including orthopedic surgery and neurosurgery—have seen double-digit growth.


1. Breakdown by type of referral: medical/symptom evaluation (53%), injection consult (24%), and chronic pain/opioid management (6%). 14% of referrals are for surgical care, and 3% are “unsure.”



RESULTS

Change in spine appointment volume, by specialty



The spine access center has been well received by physicians and executives alike. Penn Medicine next aims to use the program’s success as a launchpad for similar initiatives like optimizing care coordination, further improving access, and capturing other complex specialty conditions. 

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