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'This study shows there's light at the end of the EHR tunnel': Q&A with ProCare Pain's Dr. Fred Davis

By Brooke Murphy

There are four central pieces of data physicians can use to identify and diagnose potential fibromyalgia patients — and they're recorded in nearly every physician practice's EHR.

Fred Davis, MD, a pain specialist with ProCare Pain Solutions, a division of North American Partners in Anesthesia, was an author of a study published in the January 2018 edition of *Pain Practice*. The sweeping analysis of 82,000-plus patient medical records resulted in the development of a predictive algorithm capable of identifying potential fibromyalgia patients "hiding in plain sight," leading to earlier and more proactive treatment.

Becker's Hospital Review caught up with Dr. Davis about the fibromyalgia study and its implications for patient care and EHR use.

Editor's note: Responses were lightly edited for brevity and clarity.

Question: First, why is fibromyalgia so difficult to diagnose?

Dr. Fred Davis: Fibromyalgia (FM) is a common condition — almost everyone knows someone with FM . Yet patients who have this condition often experience it very differently, and symptom presentation can evolve over time. Some patients may present with localized symptoms such as neck and shoulder pain, while others may have back pain or limb pain, and many patients have comorbidities. In search of relief, FM patients typically present at various touch points across the continuum — primary care practices, rheumatologists, orthopedists, urologists, gastroenterologists, pain specialists — each physician focusing his or her exam and treatments of different localized areas.

Another factor contributing to the confusion is that gold-standard tests for FM, such as the Widespread Pain Index and the Symptom Severity Index, are rarely employed in primary care clinics and are difficult to integrate into general EHRs.

Q: How did researchers use patient EHR data for this study? What data was most and least valuable?

FD: Across ProCare Pain clinics, in addition to the practice EHR, we use the PRISM™ care management system, which looks at the functional, psychosocial, and quality of life dimensions of the pain experience.. We found about 1,000 patients who were officially diagnosed with FM, and we combed their medical records for commonalities, looking at characteristics such as gender, demographics, how many times they visited, treatment types, diagnoses and other traits. Turns out, FM patients all had markers that would be recorded in nearly every physician practices' EHR.

From there, we developed a predictive model and identified another 2,400 additional potential FM patients in our system pretty much hiding in plain sight. These are patients who come in more often for treatment, have a latex sensitivity, who use more medications, and who carry more pain related diagnoses. For specialists, it's important to understand that even though the patient has a problem in the area you focus on — shoulder, neck, joints — it may be part of a more generalized condition.

One of the most interesting takeaway pearls we gleaned: When you have a complex pain patient, especially female, who has a latex allergy (indicating environmental sensitivity), you should consider the diagnosis of fibromyalgia. In fact, we found these patients have a 10-times greater risk of FY than patients without this sensitivity.

Q: What do this study's conclusions mean for the diagnosis and treatment of FM patients?

FD: The clinical relevance of this study is that it proposes four predictive variables for FM based on information that is readily accessible in most EHRs. Following the study, we developed and incorporated an algorithm in the PRISM ™ care management system portion of our EHR that alerts our clinicians to the increased potential diagnosis of fibromyalgia in patients due to those four variables.

Yet, this study's conclusions go beyond just thinking about FM. Many physicians are incredibly frustrated with EHRs and don't believe they're useful tools for practicing medicine. Yet I think this study shows there is potential significant benefit to using EHRs and the data they store to advance patient care — we just need the right tools to mine this "dark" data we store but haven't used effectively yet.

There is usefulness to EHRs if you start using the right tools. We're going to see more benefit in EHRs as we continue to use them. If companies like Apple, Google and Amazon have taught us anything, it's that data is extremely valuable if you can find the right way to analyze and use it.

Q: What are you working on next?

FD: This first study was very gratifying; we knew we were on to something. We've since completed two more studies, the first focusing on distinct patterns or "stages" of fibromyalgia and how patients move between stages over time. In the latter, we looked at which medications seem to work best or are most effective for FM patients. Spoiler about this study: Narcotics generally do not help.

Q: Were there any personal learning points or moments for you throughout this research and publishing process?

FD: There's been a lot of controversy surrounding the usefulness of EHRs and whether physicians believe they add value to care delivery. I'm reminded of an October 2017 interview Becker's did with my friend and colleague, Dr. Prunskis, in which he discussed how his practice decided to eliminate EHRs altogether. He made some excellent points. However, based on our research, we feel that there is useful clinical information that is currently hidden in otherwise unused portions of the record that can contribute to better care and drive clinical and patient value. There is light at the end of the tunnel in terms of EHRs.

The other learning point I found personally exciting was you don't have to be at an academic research institution to advance the field of medicine. Those of us physicians who contributed to the study are practicing doctors. I think this study substantiates that community-based physicians play an equally significant role in driving patient care forward. ■