with large EHR data sets. EHR data are gathered for the purposes of health care delivery, and as such, do not adhere to the rigorous standards of scientific studies. Although the sheer volume of data can overcome isolated inaccuracies, large systematic errors can occur. Our data, for example, contained several variables indicative of smoking status that frequently conflicted with one another. This necessitated looking at the entire data set for patterns of inconsistencies to ensure our findings were accurate. We also had to exercise caution not just with the available data, but with missing data as well. Missing data is a common issue with EHRs, and simply ignoring these gaps can lead to very biased results. We used several advanced statistical techniques to account for the uncertainly created by missing data in order to achieve appropriate confidence intervals. Ultimately, data exploration and cleaning constituted the majority of our efforts and should be a prime focus when analyzing EHR data. Finally, the issue of statistical significance takes on new meaning when working with thousands of data points. Unlike smaller studies, where considerable effort is expended to gather an adequate sample size, any sufficiently large data set will allow a researcher to find a "statistically significant" result. Consequently, large data sets require researchers to transition away from mechanistic statistical tests toward a mathematical modeling approach with the goal of discovering clinically relevant findings.[3]

After addressing these challenges, we were able to both arrive at an estimate of polypharmacy for a large, diverse adult population and identify some of the strongest predictors of heavy medication use. In doing so, we were able to look at segments of the population that were poorly studied and control for a wide range of variables. All of this was made possible by the use of a large EHR data set. We believe our exploratory study is merely scratching the surface of potential research that EHR data sets could ultimately provide. Academic family medicine programs are ideally situated to perform influential studies on population health, treatment effectiveness, disease prognosis, and social determinants of health. This research will not only enhance our understanding of disease, but shape how we practice medicine in the future. As a leader in disease management and preventive care, family medicine should capitalize on this new resource and lead the way in large dataset research.

Jon Meiman, MD; Jeff E. Freund, PharmD

References

1. Freund J, Meiman JG, Kraus C. *Medication Use in a Network of Family Medicine Clinics*. Poster session presented at: 45th Annual Spring Conference of the Society of Teachers of Family Medicine; Apr 25-29, 2012, Seattle Washington.
2. Devoe JE, Gold R, McIntire P, Puro J, Chauvie S, Gallia CA. Electronic health records vs Medicaid claims: completeness of diabetes preventive care data in community health centers. *Ann Fam Med.* 2011;9(4):351-358.
3. Rodgers JL. The epistemology of mathematical and statistical modeling: a quiet methodological revolution. *Am Psychol.* 2010;65(1):1-12.

AAFP From the American Academy of Family Physicians

Ann Fam Med 2012;10:474-475. doi:10.1370/afm.1437.

AAFP POSITION PAPER OPPOSES MANDATED CME, OTHER BARRIERS FOR PRESCRIBERS OF OPIOIDS

In a position paper dated August 1, 2012, "Pain Management and Opioid Abuse," the American Academy of Family Medicine (AAFP) states that mandated CME could limit patient access to legitimate pain management needs. "Family physicians and other primary care clinicians play a vital role in effective pain management, including the prescribing of opioid analgesics. The creation of additional prescribing barriers for primary care physicians would limit patient access when there is a legitimate need for pain relief," the Academy said in a related news release.

"As such, the AAFP opposes any action that limits patients' access to physician-prescribed pharmaceuticals, and opposes any actions by pharmaceutical companies, public or private health insurers, legislation, the FDA or any other agency, which may have the effect of limiting by specialty the use of any pharmaceutical product."

These statements reiterate 2 existing AAFP policies, one of which opposes any action limiting patient access to physician-prescribed pharmaceuticals, and the other of which "opposes legislation or executive action that would require mandatory education of family physicians as a condition for prescribing specific drugs, such as opioids."

The Academy outlined several other major points in the paper, including its view that the chief goal of pain management should be to improve and maintain patients' ability to function. The AAFP also urged family physicians to individualize therapy based on review of the potential risks and benefits to each patient, possible drug side effects, and a functional assessment of the patient, and to monitor ongoing therapy accordingly.

In addition, the Academy:

- supports development of evidence-based physician education to ensure the safest and most effective

use of long-acting and extended-release opioids and to reduce the problem of opioid abuse
- urges all states to obtain physician input when considering pain management regulation and legislation, as well as implement prescription drug monitoring programs and the interstate exchange of registry information as called for under the National All Schedules Prescription Electronic Reporting (NASPER) Act of 2005
- strongly advocates increased national funding to support research into evidence-based strategies for optimal pain management and incorporation of those strategies into the patient-centered medical home model

According to the AAFP, 37 out of 50 states have implemented, or are in the process of implementing, prescription drug monitoring programs that use NASPER grant funding. In addition, various professional organizations either have or are developing prescribing guidelines for physicians treating patients with chronic noncancer pain.

In the position paper, the Academy also cited the FDA's recently issued risk evaluation and mitigation strategy for extended-release and long-acting opioids, saying it will continue to work with the FDA and others on projects such as the FDA's Safe Use Initiative to "ensure policies are in place to allow effective and safe opioid prescribing by family physicians for patients in their pain management programs."

Many states already are working to control the problem of opioid misuse by, for example, adopting model medical board prescribing policies, instituting prescription monitoring programs, and developing guidelines about documentation requirements.

AAFP News Now