Is Pharmacotherapy Enough To Manage The Opioid Crisis?

One researcher thinks we could do more by instituting cost-effective, behavioral interventions instead.

Dr. Padula, an active long-standing member of ISPOR, is Assistant Professor of Pharmaceutical & Health Economics in the Leonard D. Shaeffer Center for Health Policy & Economics and School of Pharmacy at University of Southern California in Los Angeles, CA, and Principal at Monument Analytics. We caught up with Bill to discuss his cost-effectiveness research on interventions to treat opioid addiction and to hear his thoughts on the opioid epidemic.

VOS: Tell us about your research and how you got interested in the opioid crisis.

Bill Padua: I became interested in identifying high-value interventions to treat opioid addiction based on conversations with some of my colleagues at USC, Johns Hopkins Medicine and Dartmouth-Hitchcock Medical Center who were addressing the needs of their patients dealing with addiction. These colleagues often said that there are few viable alternatives to opioids for severe pain, so we can't just stop prescribing—and because these drugs are addictive we need to manage that and find cost-effective approaches to treating addiction.

So what have you found—are current interventions to treat opioid addiction economically viable?

Working with psychiatrists, our research has found that cognitive-behavioral interventions have a net increase on health-care budgets in budgetary impact analyses, but the spending represents good value for money as the cost-effectiveness analyses are yielding CE ratios well within the acceptable limits of $100,000 per QALY gained. We've also looked at behavioral interventions in combination with methadone and similarly found these to be cost-effective. One thing you must understand, from a value perspective, is that many addicted individuals lose their jobs, damage their family relationships, and sometimes lead to homelessness—these interventions help restore them to a productive place in society.

You mentioned that clinicians suggest that there are few good alternatives to opioids—are there solutions on that front?

BP: While opioids are likely here to stay, a great deal of improvement can be made in terms of how opioid use is managed. For example, we have not made much effort to date on understanding the minimum threshold for pain management and how opioid use can be limited to achieving that goal. Typically, patients are discharged from hospital or sent home from a doctor's or dentist's office with a prescription for an opioid—without enough instructions for rehabilitation to minimize the dose. We can definitely do better on that front and can probably take lessons from other countries, where pain is more often tolerated than managed.

Speaking of other countries, are we seeing an opioid epidemic elsewhere or is this strictly a United States problem?

This is obviously a huge problem in the US but not solely there. You really see this also in other industrialized countries, like Canada, and European countries. Where you don't see it is in developing countries, where expectations for patient comfort vis-à-vis pain are very different. We might want to take a lesson from Africa, Latin America and Southeast Asia, where pain is viewed more as the body's natural response to life encounters as opposed to something that needs to be treated at all costs. Obviously, that's a gross generalization but there's something to it.

Are there any tactics to address the opioid crisis that haven't been leveraged yet?

Machine learning and Big Data are hot in the HEOR world right now, and to my knowledge, have not be applied effectively to the opioid crisis yet. Identifying a minimal threshold for pain management with opioids for different patient cohorts/subgroups using pharmacologic methods would be a slow, detailed process looking at one patient at a time.

There is an opportunity to apply machine learning to Big Data to identify minimal opioid amounts used in select patients in cohorts that have led to effective pain management without the need for long-term refills or indicators of addiction. However, machine learning models might be agnostic to factors that differentiate patients with a hereditary predisposition for addiction.