Upload Assignment: #4 Annotated Bibliography (25%/100 points) Due 2/15/2017

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ASSIGNMENT INFORMATION

Due Date	Points Possible
Wednesday, February 15, 2017 11:59 PM	**100**

Research on the topic to find 5 academic sources. 2-3 documents from reputable organizations like World Health Organization (WHO), and reputable newspapers such as The Wall Street Journal and New York Times, and reputable magazines such as US News and Time also can be used. Students will read each article and then complete an annotation and critique for the article, 2 paragraphs per article. Paragraphs need to be 4-6 detailed sentences.

This is a research assignment, which is to be written in an academic tone and style. You must use APA or MLA format to cite the articles. References should be as new to the literature as possible (last 10 years).

To complete the paper, each article will appear on its own page of a Word document and contain the following:

- APA or MLA citation
- Objective summary of the article (not to exceed 1 paragraph)
- Critique of the article (not to exceed 1 paragraph)

Some good resources to use for samples of annotated bibliographies can be found at: http://owl.english.purdue.edu/owl/resource/614/03/

http://www.tahvt.org/AnnotatedBibExample.pdf

GRADING RUBRIC - Assignment 4

Criteria	Possible Points	Points Earned
Each article is summarized and critiqued clearly.	35	
It has been proof-read, is free of grammatical errors, and typos.	30	
The research utilized 5 (or more) credible sources, provided in APA or MLA format.	35	
Total	**100**	

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InFocus: A Bizarre Effect of Long-Term Opioid Use

Roberts, James R. MD

Emergency Medicine News:
March 2016 - Volume 38 - Issue 3 - p 10–11 (/em-news/toc/2016/03000)
doi: 10.1097/01.EEM.0000481770.94697.40
InFocus

Author Information

Dr. Roberts *is a professor of emergency medicine and toxicology at the Drexel University College of Medicine in Philadelphia. Read the Procedural Pause, a blog by Dr. Roberts and his daughter, Martha Roberts, ACNP, CEN, at* http://bit.ly/ProceduralPause (http://bit.ly/ProceduralPause), *and read his past columns at* http://bit.ly/RobertsInFocus (http://bit.ly/RobertsInFocus).

All emergency clinicians have seen patients who require excessively-large doses of opioids given frequently to even modestly control exacerbations of their chronic pain. The clinician is often nonplussed by the patient's obvious insensitivity to very large doses of opioids. This is often simply chalked up to severe opioid tolerance or drug-seeking behavior.

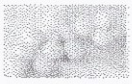

Figure. When patient...

But a condition known as opioid-induced hyperalgesia (OIH) does exist, though it is not well known and poorly disseminated in the general literature. OIH is a state of increased baseline pain sensitization that is actually caused by exposure to opioids. Individuals receiving long-term opioids for chronic pain actually become more sensitive to certain painful stimuli, to the original pain, and to new pain. Increasing the opioid dose or frequency essentially does little to relieve the pain. This is certainly a paradoxical and unexpected response. Overall, opioids lose their efficacy to control pain even when administered in very high doses. This is not the same as tolerance, although the two conditions may be difficult to differentiate clinically.

The precise mechanism of OIH is not understood, but the condition should be considered when opioid treatment becomes less effective in the absence of any disease progression, unexplained pain develops, or the individual experiences increasing levels of pain despite increasing doses of opioids. This condition still remains predominantly a mystery, but this month's column will attempt to put opioid-induced hyperalgesia into perspective.

A Comprehensive Review of Opioid-Induced Hyperalgesia

Lee M, Silverman SM, et al.

Pain Physician

2011;14(2):145

This review of opioid-induced hyperalgesia (OIH) written by pain management specialists includes more than 200 references but none from the emergency medicine literature. The authors note that treating chronic non-cancer pain with opioids has markedly escalated in recent years, bringing with it an escalation of many opioid-related problems. It is actually difficult to find evidence supporting long-term effectiveness of opioids for acute non-cancer pain, and the misuse and abuse of prescription opioids is rampant. Neuropathic pain, for example, is better ameliorated with antidepressants and anticonvulsants than opiates, but opiates are widely prescribed for this and all other types of pain.

Patients with opioid-induced hyperalgesia paradoxically experience increasing acute pain, either similar pain at the same site of the original underlying pain or pain in areas away from the original pain source. This is seen mostly by pain specialists, but all physicians unknowingly see such patients. No strategies are found to be effective in preventing, reversing, or managing OIH, but this syndrome is distinct, definable, and a characteristic phenomenon that may explain the loss of opioid efficacy in some patients.

This article reviews more than 40 years of literature concerning OIH, which has been known since the 19th century. Opioid analgesics, such as morphine, can actually result in an increase of pain. The syndrome is most often described as appearing in opioid addicts who are maintained on methadone or morphine, but it can occur with any chronic use of opioids.

OIH is not the same as tolerance, but it is usually identified that way by the uninitiated clinician. Tolerance can generally be overcome simply by increasing the opioid dose, while OIH cannot. In fact, increasing the dose can make OIH worse. Pain is actually improved by reducing or eliminating the offending opioid.

A number of complex mechanisms are proposed as an etiology for OIH, such as abnormalities in the glutaminergic system, increased nitric oxide production, NMDA receptor modulation and upgrading, and a variety of complex and poorly understood hormonal and neurotransmitter abnormalities. The syndrome affects the central and peripheral nervous systems. Even very low doses of opioids can cause hyperalgesia, but the syndrome is more common in patients receiving high doses. OIH should therefore be considered when the opioid's effects decrease in the absence of disease progression.

Individuals with OIH demonstrate enhanced pain perception to such things as light touch or other minimally-painful stimuli when compared with controls, a syndrome termed allodynia that is characteristic of this syndrome. Another example of allodynia is when patients currently or formerly using opioids display a heightened pain response to a minor procedure, such as venipuncture. All clinicians can remember a patient who appeared to be markedly uncomfortable from a simple needle stick even though they were on opioid analgesics. All clinicians have likely unknowingly experienced patients with allodynia, where pain is precipitated by minimal stimuli, such as a light touch that is not normally regarded as painful.

The treatment for opioid-induced hyperalgesia is time-consuming, confusing, and often times impractical. In essence, patients must be weaned from high doses of opioids, a tactic that might increase pain from the underlying process or produce withdrawal, both of which can exacerbate pain.

Comment: This syndrome is familiar to many pain specialists, but few other clinicians have heard of it. It likely would not be considered in the ED. Exposure to opioids can alter pain and produce a paradoxical situation where increasing doses of opioids result in increased sensitivity to pain. The incidence is unknown, and it cannot be predicted who will develop it. The often-accompanying allodynia is usually not recognized as a specific condition,

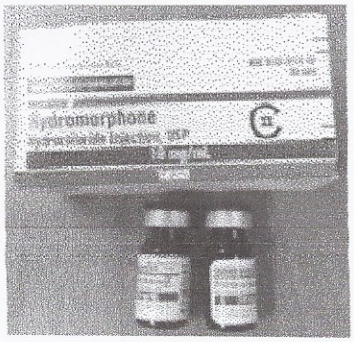

Figure. Opioids, suc...

and is thought just to be the quirkiness of the patient. Minimal touching of the skin, such as applying light stimulation, can cause the patient with allodynia to wince or complain out of proportion to the actual pain.

The basis of OIH is that opioids used to treat pain may actually paradoxically render patients more sensitive to their pain, potentially aggravate their preexisting pain, and eventually render opioids useless as analgesics. In the case of tolerance, increasing the dose will relieve pain.

Methadone and morphine are the analgesics most often studied with regard to OIH, but it is generally presumed that any long-term opioid can produce a similar phenomenon. OIH can occur in opioid-naïve patients within four weeks of exposure to moderate doses of morphine. Some believe it can even occur in the acute perioperative period.

It is clear that the ED is not the place to ferret out this syndrome. Trying to address it usually results in an unhappy patient who will accuse you of being unsympathetic to his pain or perceive your attempts as labeling him a drug seeker. OIH is worth considering because not all patients who require higher doses of opioids or who fail to respond to standard doses are drug seekers or opioid-tolerant.

Exactly how to provide pain relief for a patient with OIH in the ED is unknown. Some suggest switching the offending opioid to another drug, but many chronic pain patients are extremely fond of a specific opioid. The use of supplemental low-dose ketamine for pain control is one attempt to ameliorate this condition on a short-term basis. Most emergency clinicians have never used ketamine with opioids to treat acute pain, but it has its advocates. Supplemental ketamine is rather popular to control pain in the postoperative period.

The emergency clinician will likely never suspect OIH and simply write off the patient's overreaction to a needle stick or physical examination as being unexplainable, if not annoying, but the syndrome should be considered with a possible referral of such patients for chronic pain management. The only ED intervention one can probably accomplish is to give larger doses of opioids, often more frequently, to temporarily relieve pain. Switching to an alternate opioid is certainly worth a try. Importantly, patients with opioid-induced hyperalgesia should not all be considered drug seekers or simply highly tolerant.

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Learning Objectives for This Month's CME Activity: *After participating in this CME activity, readers should* be better able to diagnose and treat opioid-induced hyperalgesia.

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The New York Times | https://nyti.ms/2lQyGEB

HEALTH

Long-Term Opioid Use Could Depend on the Doctor Who First Prescribed It

By JAN HOFFMAN FEB. 15, 2017

Some emergency room doctors are far more likely than others even within their own department to prescribe opioids to treat pain in older people, and their patients are at greater risk of using the powerful drugs chronically than those who saw doctors who prescribe them less frequently, according to a large new study.

The research was published Wednesday in The New England Journal of Medicine.

As the opioid epidemic continues to devastate communities around the country, the study was the latest attempt to identify a starting point on the path to excessive use.

"This is the analysis we have been looking for to show the risk of a single exposure of a patient in an emergency room to an opioid," said Dr. Lewis S. Nelson, the chairman of emergency medicine at Rutgers New Jersey Medical School and University Hospital, who was not involved in the study.

The study tracked about 375,000 Medicare patients with a similar range of complaints in several thousand hospital emergency rooms from 2008 to 2011, as well as the frequency of opioid prescriptions written by the doctors who treated them. It found that the prescribing patterns of whichever physician they

encountered were an important factor in their future opioid use.

Over all, researchers estimated that out of every 48 patients who were sent home with a prescription, one would end up using opioids long-term, which researchers defined as at least 180 days of medication over a year. Chronic opioid use, particularly in older people, can contribute to spiraling problems: constipation, confusion, falls and addiction.

But the risk of becoming that patient increased or decreased depending on the treating physician. Researchers found that doctors they identified as "high-intensity" prescribers sent one in four patients home with opioids. "Low-intensity" prescribers gave opioids to one in 14 patients. The patients who saw a high-intensity prescriber were 30 percent more likely to become long-term users, researchers said.

The study's lead author, **Dr. Michael L. Barnett**, an assistant professor of health policy and management at Harvard T.H. Chan School of Public Health, said the point of the findings was "not that high-intensity prescribers are necessarily irresponsible in prescribing opioids to certain patients." But, he said, "Their patients have worse outcomes that we weren't aware of before."

Experts in emergency medicine, geriatrics and medical toxicology praised the study.

"It puts the burden on us in the E.R. to be even more thoughtful about how to do things," said Dr. Nelson, who served on the expert panel for the Centers for Disease Control and Prevention that helped develop opioid guidelines in 2016.

Although researchers looked at the strength and duration of the initial prescription, they did not find that the high-intensity prescribers necessarily prescribed doses that were higher or longer lasting.

Dr. Barnett, a primary care physician at Brigham and Women's Hospital, said that the critical first step was the decision itself about whether to prescribe opioids, "regardless of how much or how little."

The disparity in prescribing patterns, he said, demonstrates that "there is no consensus among E.R. doctors who are treating similar patients about when to

prescribe opioids and what dose to give, and the lack of guidance for how to treat acute pain."

"Doctors may have an intuitive sense, but when you rely on intuition, you get inconsistency," he said. "You get overtreatment and also undertreatment."

The study did not seek to lay blame for the well-documented rise in opioid use by Medicare patients at the feet of emergency room doctors. Indeed, after patients receive an opioid prescription from the emergency room, they usually have subsequent prescriptions written by doctors outside the hospital, especially primary care physicians. The study's authors alluded to "clinical inertia" — the belief among follow-up physicians that if the emergency room doctor's prescription did the trick, they might as well refill it.

Emergency department physicians note that older adults present unique, limiting challenges that further complicate pain management decisions. For any number of events — a twisted ankle, aching gut, or throbbing neck — younger adult patients can often be successfully treated with anti-inflammatory drugs, such as naproxen or ibuprofen, and an ice pack.

But Dr. Michael A. Steinman, a professor of medicine at the University of California, San Francisco School of Medicine, who has studied the increase of opioid use among older adults, said that these commonly used medications can exacerbate kidney and blood pressure problems for them, and raise the risk of stomach ulcers, particularly if used long term.

"So for many types of pain we're left with creams, salves, patches and Tylenol," said Dr. Steinman, a geriatrician. "And after that, you're up to opioids. We have few medication options."

Certainly many cases warrant opioids, he said, such as a broken bone. "But a sprained ankle? A painful rash? We shouldn't just routinely recommend an opioid because someone is in pain."

But he also noted that there is a "structural disincentive" to offer alternatives to medication, such as acupuncture, massage therapy, physical therapy, because of poor insurance reimbursement.

Another point from the study, said Dr. Maryann E. Amirshahi, an emergency room physician at Medstar Washington Hospital Center who has a background in pharmacology and addiction medicine, was that if doctors were going to consider prescribing opioids, pausing a few moments in their harried shift was in order.

"We should be more mindful," she said, recommending that doctors ask risk-assessment questions, prescribe shorter courses and err on the side of not having leftover, "just-in-case" pills.

Also important, she said: "Talking with patients about the role of opioids."

Recently, Dr. Barnett, the lead author, realized himself that to do so amounted to a modest but meaningful shift in routine practice. He saw a patient who had first been treated in the emergency department for pain and bruising after falling on her back down winter-slick steps.

"She was in enormous pain and had such difficulty moving around that I felt I had no choice but to give her a short prescription of opioids to get through the weekend, just to be functional," he recalled. "I told her about the risks of constipation and sleepiness. But I didn't tell her about dependence and addiction.

"And that's one lesson from this paper. Doctors don't even know what they're doing is a habit. We have to decide to interrupt ourselves, like picking up a backpack with your other arm: 'Oh, I need to tell this patient about another risk with this medication.' "

A version of this article appears in print on February 16, 2017, on Page A12 of the New York edition with the headline: New Study of Opioid Use Finds a Disparity in How Doctors Prescribe Drugs.

The Washington Post

To Your Health

Opioid drugs make pain tolerable, most long-term users say

By Emily Guskin December 20, 2016

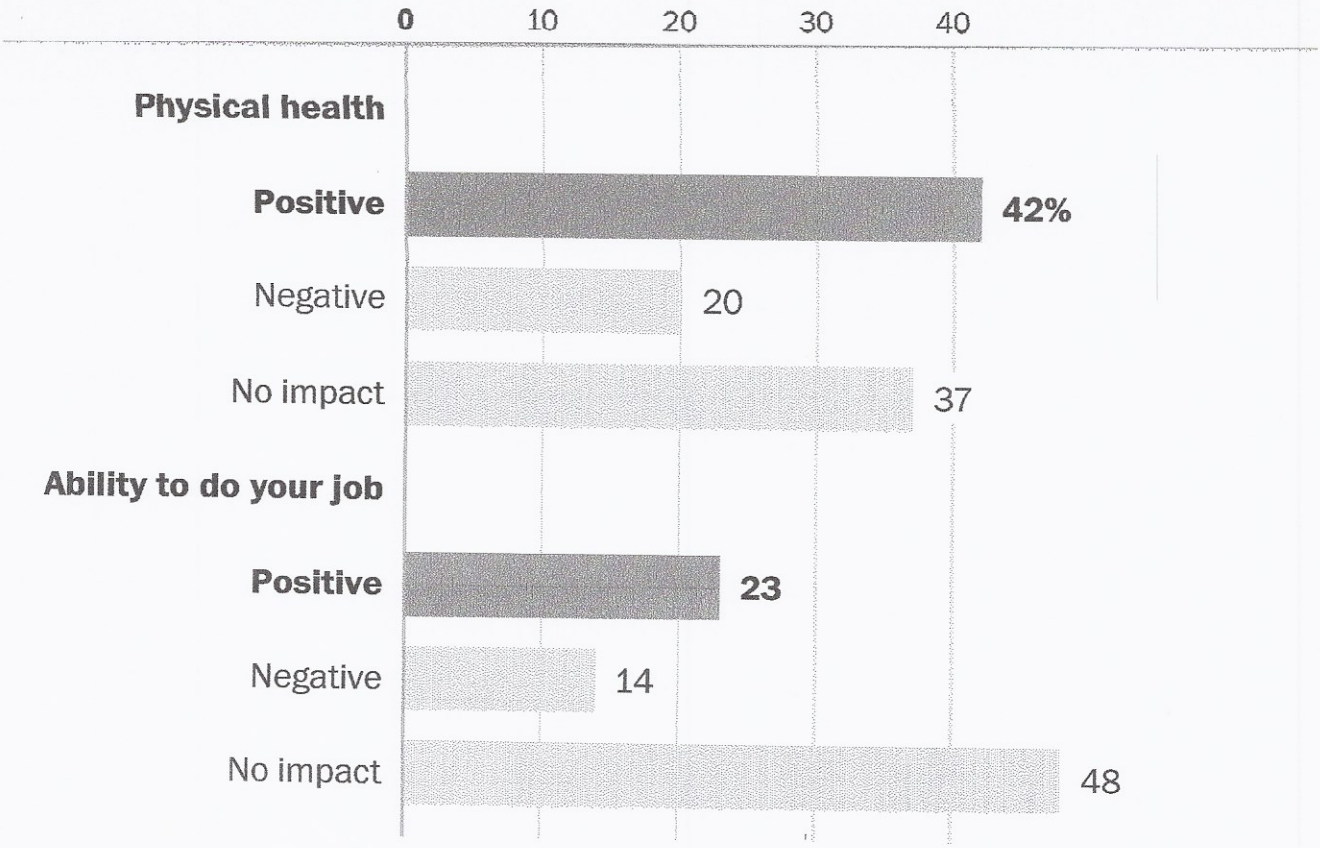
Users of opioid painkillers often grapple with risking addiction or living with pain

▶ Play Video 5:27

At the center of the nation's opioid crisis is a simple fact: Large numbers of Americans experience serious pain, and the vast majority of those who have used strong painkillers for a long period say they work.

That's one key takeaway from a new Washington Post-Kaiser Family Foundation national poll of long-term opioid users, people who have taken the drugs for at least two months during the past two years.

The Centers for Disease Control and Prevention has discouraged doctors from prescribing opioid painkillers for chronic pain treatment after a sharp rise in overdose deaths related to opiates ranging from prescription painkillers to heroin and synthetic drugs such as fentanyl. CDC Director Tom Frieden recently told The Post that "prescription opiates are as addictive as heroin," and the agency's guidelines have noted that there is limited evidence that the drugs are effective in treating long-term pain. The Post-Kaiser survey finds that about 1 in 20 Americans have taken the drugs



Source: Washington Post-Kaiser Family Foundation survey of 622 long-term opioid users with a sampling error of +/- 5 points

WASHINGTON POST

Long-term opioid users split on how the drugs have affected mental health and personal relationships. About 1 in 5 say painkillers have had a positive impact on their mental health and another 1 in 5 say they have had a negative impact on their mental health, while almost 6 in 10 say they've had no impact. Similarly, 68 percent say opioids have had no impact on their personal relationships, while 15 percent report a positive effect and 16 percent say it has been negative.

Mental health and personal relationships

Percentage of long-term opioid users on how drugs impact their lives

to treat pain for at least two months over the past two years, representing a significant barrier to curbing the country's reliance on the drugs.

The survey of adults who have used opioids for at least two months in the past two years found more than 4 in 10 saying that their health is "only fair" or "poor" (42 percent), more than double the share of all Americans who rated their health as negatively in a November Kaiser Family Foundation poll (18 percent). And 7 in 10 long-term opioid users say a disability, handicap or chronic disease keeps them from participating fully in work, school, housework or other activities.

Roughly 4 in 10 long-term opioid users say chronic pain was the reason they first started taking the drugs, while about one-quarter each cited pain after surgery or following an accident or injury.

But opioid users say the painkillers make a significant difference — 92 percent say that prescription painkillers reduce their pain at least somewhat well, including over half (53 percent) say they do so "very well." In a separate question, 57 percent say their quality of life is better than if they had not taken the medications.

When long-term opioid users are asked about the medication's impact on five broad aspect of their lives, they rate two positively on balance, two as mixed and one negative. Opioid users report the most positive impact on their physical health, with 42 percent saying painkillers have had a positive impact on their health, another 20 percent saying it has been negative and 37 reporting no impact. Regarding their ability to do their job, just under a quarter (23 percent) say painkillers have had a positive impact, while 14 percent say they've had a negative impact and another 48 percent said they've had no impact.

Opioids' impact on physical health and work

Percentage of long-term opioid users on how drugs impact their lives

users with a sampling error of +/- 5 points

WASHINGTON POST

Two areas where long-term opioid users report significant problems are dependence and adverse side effects. Roughly one-third (34 percent) of long-term opioid users say they became addicted to or physically dependent on the drugs (separately, 31 percent say they are dependent, 23 percent say they are addicted). Physical side effects are common, with 55 percent saying the drugs have caused constipation and another 50 percent reporting indigestion, dry mouth or nausea.

The poll finds that people who live in the same household as a long-term opioid user report a more negative picture across the board — 54 percent say the person they live with is or was addicted to or dependent on painkillers. Household members are also significantly more concerned about side-effects than are opioid users themselves. A 67 percent majority say they're at least somewhat concerned about side-effects of the painkillers, compared with 49 percent of those who use them. Household members are also more likely than opioid users themselves to say the painkillers have had negative impacts on the user's physical health (39 percent vs. 20 percent of users) and the user's mental health (39 percent vs. 19 percent).

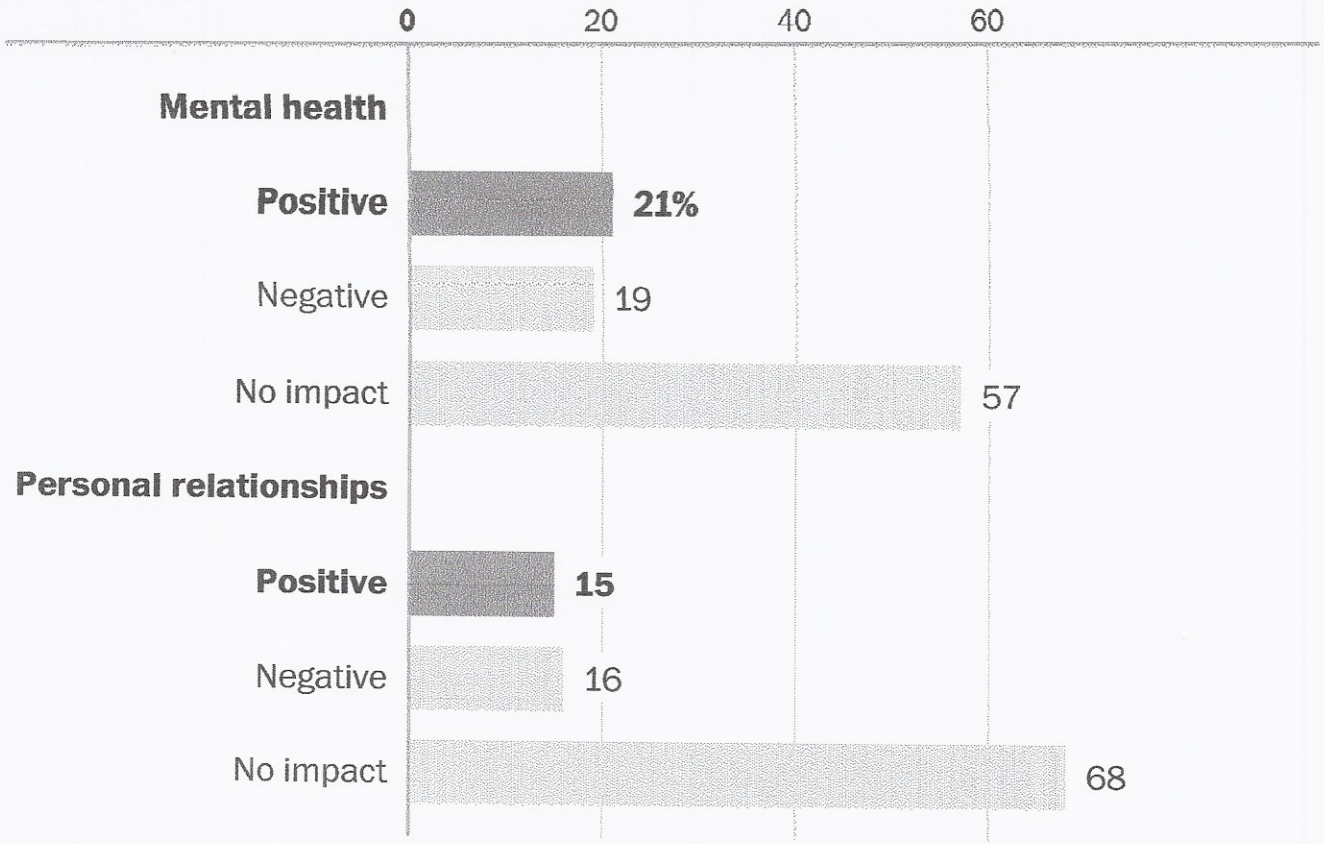
[*Read full poll results*]

But regardless of the adverse effects, the Post-Kaiser survey results show clearly why opioid users feel the medication is necessary, and why they are worried about the impact of a crackdown on abuse of the drugs.

Two-thirds of long-term users say they are very or somewhat concerned that efforts to decrease abuse of prescription painkillers could make it more difficult to obtain them. Nearly 6 in 10 say that as it is, prescription painkillers are difficult to obtain for medical purposes.

Allaying those concerns represents a big task for those seeking to combat the worst effects of opioids and one that's not likely to go away soon.

This Washington Post-Kaiser Family Foundation poll was conducted by telephone Oct. 3-Nov. 9 among a random national sample of 622 adults age 18 and older who say they have taken strong prescription painkillers for a period of two months or



Source: Washington Post-Kaiser Family Foundation survey of 622 long-term opioid users with a sampling error of +/- 5 points

WASHINGTON POST

The only measure in which long-term opioid users report more of a negative impact than a positive one was in finances: Just 8 percent say painkillers had a positive impact on their finances compared with a larger 17 percent who said they were negative. A 74-percent majority, though, said painkillers had no impact on their finances.

Finances

Percentage of long-term opioid users on how drugs impact their lives

Source: Washington Post-Kaiser Family Foundation survey of 622 long-term opioid

more at some time in the past two years other than to treat pain from cancer or terminal illness and 187 household members of someone meeting the previous requirements. The results from the sample of personal users have a margin of sampling error of plus or minus five percentage points and the sample of household members has an error margin of plus or minus nine percentage points.

Scott Clement contributed to this report.

TOP STORIES

State Department sidelined in first month of Trump presidency

A White House often wary of the foreign policy establishment and struggling to set priorities on the fly has sharply curtailed the department's level of public engagement and official travel while relegating new Secretary of State Rex Tillerson to a largely offstage role.

By Carol Morello and Anne Gearan

Trump administration rolls back protections for transgender students

The move drew immediate condemnation from gay and transgender rights advocates, who accused President Trump of violating past promises to support protections.

By Sandhya Somashekhar, Emma Brown and Moriah Balingit

- **Critics slam DeVos after**

(The Post)

How today's visa restrictions might impact tomorrow's America

Although the visas issued to countries included in the executive order represent less than 1 percent of total visas, the impact on the U.S. talent force could be significant. Iran, which is included in the restricted list, ranked 10th in the number of U.S. doctorates awarded to noncitizens in 2015.

By Samuel Granados

Trump appears to be losing his war with the media

A poll from Quinnipiac University suggests that while people may be unhappy with the mainstream media, they still think it's more credible than the president.

By Aaron Blake · **The Fix**

- **The Fix: Kellyanne Conway was off TV for a week**

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