Investment in research saves lives and money

**Today:**
- Nearly 50 million adults suffer from chronic or severe pain in the U.S. *
- More than half of Americans with chronic or severe pain suffer symptoms on a daily basis. *
- Common forms of chronic pain include those associated with migraine and with irritable bowel syndrome (IBS), as well as lower back pain and jaw pain. *
- Veterans are 40% more likely to experience severe pain, particularly back and joint pain, compared to nonveterans. ‡
- Approximately 35% of people who suffer from chronic pain also suffer from depression. Δ
- Individuals with migraines, tension headaches, lower back pain and fibromyalgia have a greater risk of suicide compared to the general population. Φ

**The Cost:**
- The total economic burden of pain is an estimated $635 billion annually. *
- In 2010, pain management care cost Medicare and Medicaid $86 billion. *
- On average, workers with chronic pain miss a total of 345 hours of work per year due to symptoms, resulting in a total of $109.2 billion in lost productivity. *

### HOW RESEARCH SAVES LIVES:

- The Food and Drug Administration (FDA) approved a spinal cord stimulation system (SCSS) to treat chronic pain in the torso and limbs. While not a first-line approach, SCSS is showing significant promise for individuals with unmanaged pain. In trials, 75% of participants saw a 50% reduction in pain within three months. *
- Duloxetine, originally approved as an antidepressant, has been shown to be effective in treating the pain associated with such high burden diseases as chronic lower back pain, osteoarthritis and fibromyalgia. *

### HOW RESEARCH SAVES MONEY:

- Studies suggest alternative treatments, such as meditation or exercise, may lead to statistically significant improvements in pain for some patients. Utilization of non-drug treatments could reduce the annual $17.8 billion currently spent on prescription drugs for chronic pain. #, Φ
- Approximately 12% of all Americans suffer from migraines. Studies have found aerobic exercise, when used as the primary intervention for migraines, can lead to a 40% reduction of headache frequency. This provides a promising cost-effective avenue to reduce the $5.4 billion cost of treating chronic migraines annually. #, Φ

*NAP IN PAIN RESEARCH ALLIANCE (<WWW.PAINRESEARCH.ORG>)
# CHRONIC PAIN RESEARCH ALLIANCE (<WWW.PAINRESEARCH.ORG>)
‡ NAHIN, R.L. J PAIN, 2016. 16:EPUB.

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**perspective:**

**NAME:** Walter Kowal  
**CONDITION:** necrotizing fasciitis  
**CARETAKER:** Nancy Kowal

Nancy Kowal, MS, NP, former President of the American Society of Pain Management Nurses (ADPNN), has both professional and personal experience with pain. As a nurse, Nancy spent the majority of her career working in the intensive care unit (ICU) helping address patients’ pain on a daily basis. When visiting Nancy at work one day, her husband Walter became infected with necrotizing fasciitis, a rare flesh-eating bacteria that destroys the tissue beneath the skin. After quickly developing a dangerously high fever, Walter was admitted into the ICU and given 12 different antibiotics to combat the life-threatening infection and an IV morphine drip for pain management. While the antibiotics were slowly working to defeat the infection, finding adequate pain management proved to be a larger challenge.

The initial short-acting morphine drip for acute pain was not sustainable in the long-term, leading doctors to switch Walter to an oral, long-acting opioid. The combination of short-term pain management for high-impact events, such as changing bandages, and the continued long-acting opioid treatment kept Walter’s pain at a manageable level. However, after being transferred to a rehabilitation facility, Walter’s pain reemerged at an unmanageable level. The medical staff struggled to address Walter’s extreme pain, which motivated Nancy to become an effective advocate for her husband, using both her professional knowledge and personal experience to work with the staff. Nancy firmly believes her husband would have made it through rehabilitation without the improved pain management education of the medical staff.

Walter passed away in 2016 from kidney complications unrelated to necrotizing fasciitis. Nancy knows that she would not have had the last seven years with her husband following the infection without effective pain management. Now retired from nursing, Nancy gives lectures and conducts workshops to help bridge the knowledge gap on pain management treatment. While education of medical professionals is a key step in improving the status quo for individuals suffering from pain, research will also be a contributing factor to success. The research and development of accurate outcome measures is something Nancy strongly believes will be of importance to improved care, leading to higher quality and patient-centered treatment.

*If you think research is expensive, try disease.*

-Mary Lasker 1901-1994
Hope for the Future:

Researchers at Harvard University have observed neuro-inflammation in areas of the brain associated with chronic pain. The results not only provide potential treatment options, but the possibility of an objective way to measure the presence or intensity of a patient’s pain.*

Researchers at Tulane University have developed a non-opioid pain relief medication. In preclinical trials, the new treatment provided greater pain relief and decreased side effects in comparison to many currently available treatments.#

A study from the University of Arizona found exposure to green LED strips reduced levels of neuropathic pain in animals. A small clinical trial testing this new treatment in fibromyalgia patients will determine if this is a potential avenue for non-opioid treatment of pain.+

The Bottom Line:
The burden of chronic pain on our citizens, workforce and health care system is staggeringly high, and pain-associated costs are increasing. Research that investigates all aspects of pain management, from the causes of pain to more effective, non-addictive treatments, are needed to help millions of patients suffering from this debilitating condition.

+ UNIVERSITY OF ARIZONA NEWS <UANEWS.ARIZONA.EDU>