

Trends in Global Availability of Opioid Analgesics

David E. Joranson, MSSW, Aaron M. Gilson, Ph.D., John M. Nelson, MS, Karen M. Ryan, MA

Pain & Policy Studies Group, University of Wisconsin Comprehensive Cancer Center, World Health Organization Collaborating Center for Policy and Communications

Aim of Investigation

- (1) Provide updated information on consumption of principal opioids in the world as one indicator of progress to improve pain relief;
- (2) Study the relationship between countries' development status and morphine consumption; and
- (3) Evaluate abuse of morphine in relation to medical consumption.

Methods

- (1) We compared national governments' 1984 and 1997 reports of morphine consumption to the International Narcotics Control Board (INCB); these are presented in two global maps (Figure 1). We also examined trends in the global consumption of selected opioid analgesics used to treat moderate to severe pain (Figure 2);
- (2) We compared INCB consumption data with the Human Development Index (Figure 3); and
- (3) We compared trend data from the U.S. Drug Abuse Warning Network (DAWN) with U.S. morphine consumption data, to examine the relationship between the abuse and medical consumption of morphine (Figure 4).

Results

The consumption of morphine in the world has increased since the publication of the WHO Three-step Analgesic Ladder in 1986. Most of the increases have occurred in some (but not all) developed countries; morphine use has begun to increase in a number of developing countries as well. However, it remains that a country's development status is highly predictive of its morphine consumption. High morphine consumption tends to occur in developed countries. However, not all developed countries have high morphine consumption. High morphine consumption does not necessarily lead to greater abuse: In the United States, the abuse of morphine is very low and stable for the last fifteen years, despite very large increases in its medical use.

Figure 1. Global Consumption of Morphine in Mg/capita

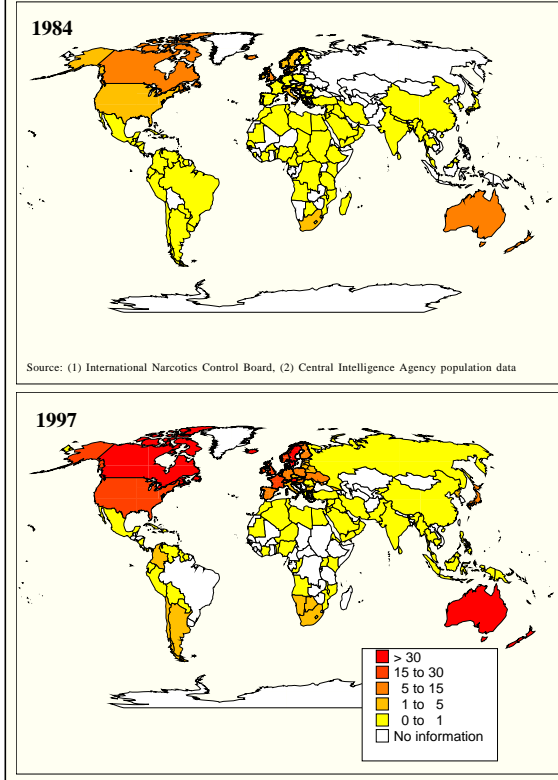


Figure 3. Morphine Consumption vs. Development Status (104 Countries)

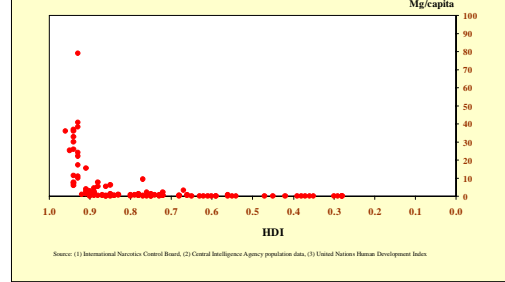
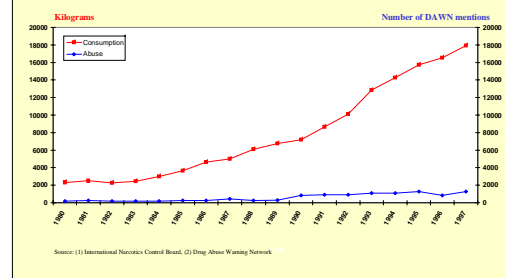


Figure 4. Consumption and Abuse of Morphine in the United States, 1980-1997



Conclusions

Globally, the medical need for opioids in the class of morphine is far from being met. This is true in both developed and developing countries. Thus, every year people with cancer will continue to die with severe unrelieved pain, even though most cancer pain could be relieved if opioid medications in the class of morphine were available.

Progress to improve opioid availability has been significant, but it is slow due to the presence of many barriers. The greatest progress has probably occurred in the places with the fewest barriers. We postulate that several factors will affect the rate of progress to improve opioid availability in a country:

- status of health care services,
- resources dedicated to pain relief and palliative care,
- adequacy of the drug distribution system,
- extent of serious regulatory barriers,
- attitude of the government, and
- presence of systematic efforts to identify and reduce barriers.

Improving patient access to opioid analgesics will require

- vigorous and sustained national and local leadership,
- greatly improved public awareness,
- great improvements in clinical practice, and
- revisions of national narcotic control policy to ensure availability of opioids.

Bibliography

- International Narcotics Control Board. Availability of opiates for medical needs. In: *Report of the International Narcotics Control Board for 1995*. New York: United Nations, 1996.
- International Narcotics Control Board. *Narcotic Drugs: Estimated World Requirements for 1999, Statistics for 1997*. New York: United Nations, 1999.
- Ryan, K.M., Joranson, D.E., Gilson, A.M., Nelson, J.M., & Dahl, J.L. (November, 1998). *Schedule II Opioid Analgesics: Use and Abuse*. Poster presented at the 17th Annual Meeting of the American Pain Society in San Diego, CA.
- World Health Organization. *Cancer pain relief with a guide to opioid availability* (Second edition). Geneva, Switzerland: WHO, 1996.



Pain & Policy Studies Group
WHO Collaborating Center for Policy and Communications in Cancer Care

University of Wisconsin-Madison
 1900 University Avenue
 Madison, WI 53705
 (608) 263-7662

<http://www.medsch.wisc.edu/painpolicy>

Figure 2. Global Consumption of Selected Opioid Analgesics 1978 - 1997

