National Institutes of Health

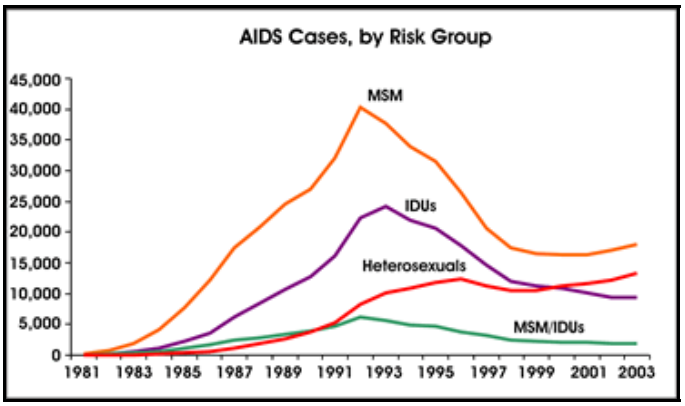
Fact Sheet — *Heroin Addiction*

Thirty Plus Years Ago

- In the 1960s, the most popular form of treatment for heroin addiction was "Civil Commitment," which essentially placed heroin addicts in prison camps.
- After use of heroin (and other drugs) skyrocketed, methadone was tested and found to be an effective treatment for opiate addiction. In the early 1970s, public concern over veterans returning from Vietnam with heroin addiction prompted the government to establish a nationwide network of methadone treatment clinics.
- By the 1980s, heroin use was known to be associated with premature mortality, but the mechanisms were unknown. The emergence of AIDS gave new urgency to the need to treat heroin addicts, among whom HIV infection spread rampantly through the sharing of contaminated injection equipment.

Today

- The discovery of opiate receptors, along with enkephalin and endorphins — the naturally occurring chemicals that bind to them — marked a watershed event in neuroscience for understanding the effects of drugs in the brain. We now have a much better understanding of the opioid system's role in regulating pain, mood, and other brain functions.
- We understand addiction to opiates (and other drugs) as being a chronic, relapsing disease with a wide range of serious medical consequences.
- These science advances enabled the development of better compounds for treating opiate addiction.
- Naltrexone, an opioid blocker, was added to the medications toolbox in 1984. It was highly effective in reversing the effects of heroin overdose, but its use to achieve abstinence was hampered by poor treatment adherence.
- Methadone is a successful treatment option, but is limited because it is only available through specialized treatment clinics.
- Buprenorphine, the latest tool available for opioid detoxification and relapse prevention, can now be prescribed in the privacy of a doctor's office. A novel formulation combining buprenorphine with the opiate blocker naloxone discourages its abuse. Recent evidence reveals a growing willingness on the part of community treatment programs to use buprenorphine for opiate detoxification, signaling a cultural shift toward greater acceptance of pharmacotherapies among treatment providers.
- Effective medications and HIV risk reduction interventions in intravenous drug abusers have helped to curb the spread of HIV by injection drug users (IDUs) (see chart below).



MSM – Men who have sex with men.
IDU – Injection drug users.

- Public education campaigns teach young people that risky sexual behaviors are often the link between drug abuse and HIV/AIDS.

Tomorrow

Preempting harm from opiate addiction.

- Broader acceptance that heroin addiction is a chronic brain disease will help erase stigma, permit a more accurate assessment of disease prevalence, identify those with increased vulnerability, and improve the rate of treatment seeking. By moving forward with this multi-pronged approach, we will close the heroin treatment gap: currently, more than 800,000 of an estimated 1 million heroin addicts do not seek nor receive any form of treatment for their addiction.
- Early interventions and treatments that work will also help stem the tide of growing prescription drug abuse, particularly problematic among adolescents and young adults.
- Researchers are getting closer to developing a new generation of non-opioid based pain medications that would circumvent the brain reward pathways, greatly reducing their abuse potential.

Predictive and personalized approaches.

- Scientists are taking advantage of powerful genomic tools to identify genes that predispose people to or protect them from addiction. Understanding key genetic differences will revolutionize the way we recognize and protect people with an increased biological risk for addiction. Tomorrow, we will be able to treat patients according to their specific genotypes.

Improving adherence to addiction treatment.

- The availability of dramatically improved pharmacological and behavioral therapy options will help narrow the treatment gap. For example, new long-acting (depot) formulations of naltrexone and buprenorphine, because they are released slowly (e.g., one dose can last 6-8 weeks) lend to better compliance.
- NIH developed a depot formulation of naltrexone in partnership with industry. This depot version may be an attractive option for use in certain settings, including the criminal justice system and countries reluctant to use currently available therapies.