Evidence-based Prevention & Treatment Options for Emerging Heroin Use in a Public Health Framework

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CICAD Meeting, Washington, DC, 04 May 2010
Heroin Use – why concern for public health?

- Major risks/harms:
  - **Morbidity:** Infectious disease transmission, including HIV/HCV, especially if H is used by injection (rather than smoked)
  - Morbidity/InfDis risks greatly enhanced if heroin is used a) in risky environments and b) in conjunction with other drugs (e.g., stimulants => ‘bingeing’)
  - **Mortality:** Accidental overdose deaths, e.g. due to variable substance purity/contamination
  - **Crime:** H is bought on black markets, and associated with substantial acquisition (e.g., property crime, sex work etc.) crime

Targeted Prevention for Heroin Use

- What to do? => depends on socio-epidemiological situation of use
  - If heroin is largely used by non-injection smoked, key focus ought to be on preventing transition to injecting as key morbidity/mortality risk
  - Few studies of brief interventions/educational outreach for maintenance of/switch to non-injection routes suggesting short-term benefits (but limited strength of evidence)
  - For injection users, clear & strong evidence that a) easily accessible and b) well-run needle exchange programs will lower infectious disease transmission risk and incidence
Treatment options

• Opioid maintenance treatment (OMT) as primary treatment response in virtually all Western countries, and increasingly elsewhere

• Methadone: Oral opioid agonist treatment, in practical use and researched in North America since 1960s; widely available in numerous countries, as far as China & Iran

• Buprenorphine: Newer oral agonist/antagonist (Bup/Naloxone combo) => preferable for more stable populations and more diversion/abuse resistant; available in North America, France, others

• Both Methadone and Buprenorphine added to the WHO’s ‘List of Essential Medicines’ in 2005 supported by WHO, ONDCP, UNAIDS

• Medical Heroin Prescription: Injection or oral options; examined by large-scale clinical trials in CH, NL, GER, CAN, and in very limited use for high-risk and treatment refractory H-user populations

Benefits of OMT (see NIDA, Cochrane group, NIH Consensus Conf/JAMA, BMJ, Lancet => pub details on request)

• …among opioid users successfully attracted and retained into OMT:
  - Reduction of HIV infection risk and incidence
  - Reduction of illicit opiate drug use
  - Reduction of overdose risks & fatalities
  - Reduction of drug-related crime
  - Improvement of physical and mental health status & Quality of Life indicators
  - Cost-beneficial and cost-effective

• …also implies that OMT constitutes both effective treatment and prevention, especially if provided to users at an early stage of use
Challenges for OMT

• Appeals/attracts only limited proportion of H users -> in ‘optimized’ systems, max. 50% of users
• Structures/practices of delivery: Broad OMT reach & accessibility cannot be achieved by specialized clinics but require integration of OMT into community-based health care services (e.g., GP offices, community health centres, local pharmacies) => requires broad training
• Broad OMT availability & community dispensing can facilitate diversion, i.e. methadone can become commodity on illicit drug markets => restrictions/control need to be balanced with public health aims
• In several countries (incl. US & CAN), prescription opioids (e.g., oxycodone, hydromorphone, codeine) have replaced heroin as drug of choice among street users => new challenge for prevention & treatment interventions (especially in ‘PO rich countries’)
Drug-related Deaths in Switzerland, 1987-2007


Numbers of Newly Diagnosed HIV-infections by Principal Source of Infection, Switzerland, 1988-2008
