

«Heroin on trial»  
Heroin assisted treatment in the UK  
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# The development and operation of supervised heroin treatment at local and national level

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# Declaration of interests

No conflict of interests to be declared

The research reported here was mandated and funded exclusively by  
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Research protocol, implementation and evaluation results were controlled by an  
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# Background and rationale

- **Heroin epidemic** late 1980ties, open drug scenes in cities («needle park»)
- **HIV epidemic**, largest increase of incidence and prevalence in drug injectors
- Growing proportion of **heroin users not in treatment** in spite of growing availability of drug-free treatment and agonist assisted therapy (Methadone, Buprenorphine)
- Concerns about the **image** of an otherwise well organised society

## *Aims*

- *Optimize proportion of injectors in any kind of treatment*
- *Reduce nuisance and delinquency from injectors*
- *Improvements in health and social integration of injectors*

# The research concept and design

## *Concept*

- Prescribing pharmaceutical diamorphine in the **framework of a comprehensive assessment and treatment programme**
- Respecting politically defined conditions
  - **Defined intake criteria** (min.age 21, min. 2 former treatments failed, health/social problem)
  - **No take-home of injectables** (supervised injections at clinic sites only)
  - Participants have to deposit their **drivers licence** while being in the programme

## *Design*

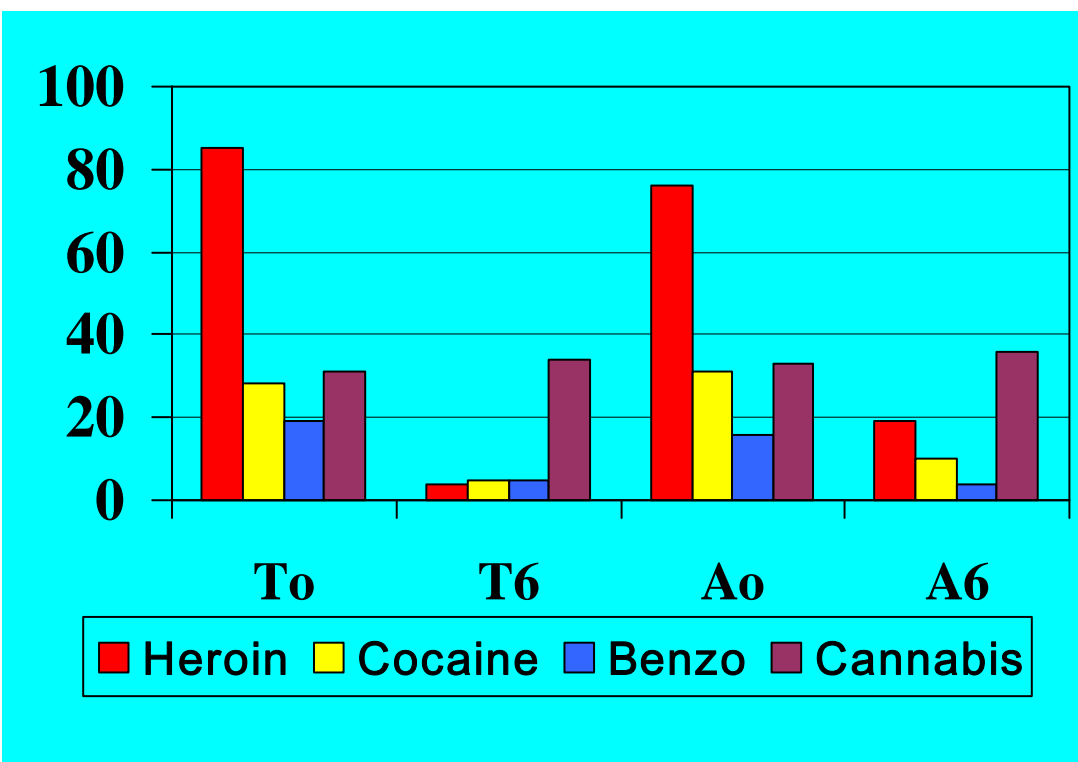
- ***Cohort study, long-term prospective follow-up***
- ***Randomised controlled substudies*** (Geneva with waiting-list design, Bern randomising double blind to i.v.heroin and morphine, Basel randomising to i.v.heroin and methadone)
- ***Continuous monitoring of entries, discharges, side effects, comorbidities, interventions***

# Patient illegal drug use and status at follow-up

## Illegal drug use at 8-year follow-up

T: patients still in treatment A: discharged

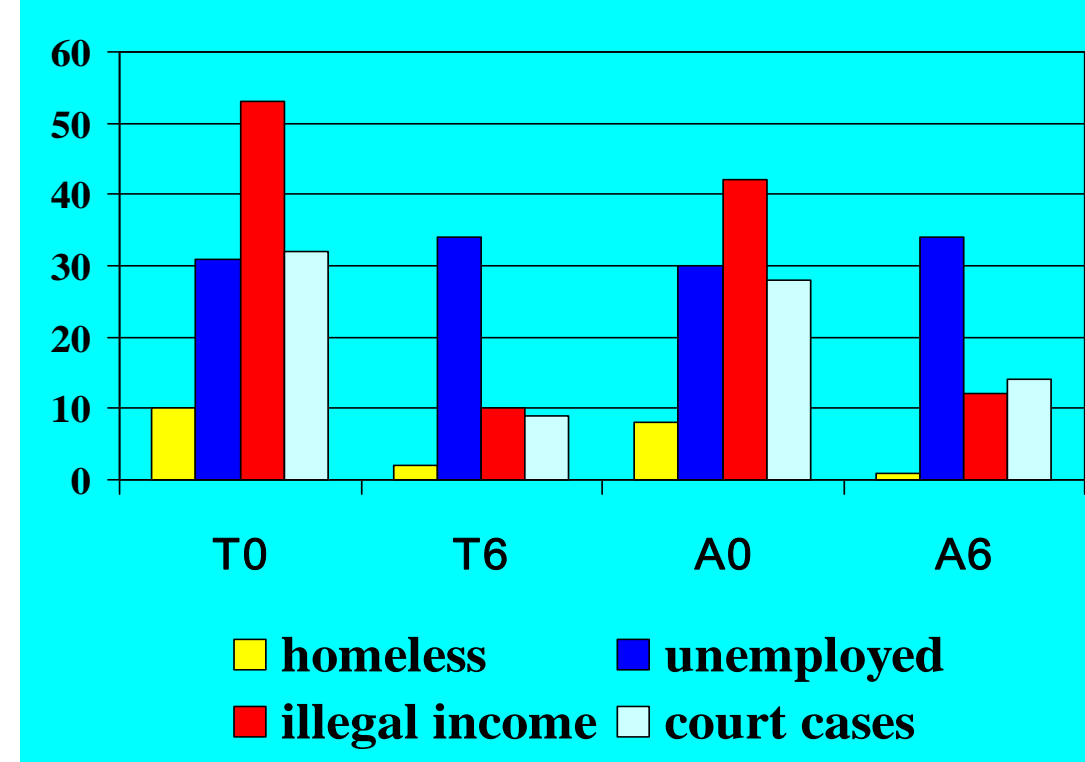
(Gschwend et al 2003)



## Social status at 6-year follow-up

T: patients still in treatment A: discharged

(Güttinger et al 2002)



# Mortality in heroin assisted treatment (CH)

*(Rehm et al 2006)*

## Annual death rates

Year		Deaths	Crude rate
1994	137.2	1	0.0073
1995	439.7	12	0.0273
1996	782.3	8	0.0102
1997	705.8	10	0.0142
1998	715.3	6	0.0084
1998	886.8	6	0.0068
2000	956.0	6	0.0063
<b>1994-2000</b>	<b>4623.1</b>	<b>49</b>	<b>0.0106</b>

## Causes of death

Cause	n	%
HIV / Aids	17	34.7
Other nfections	5	10.2
Other chrnic disease	10	20.6
Accidents	4	8.14
Intoxication, overdose	5	10.26
Suicide	8	16.3
<b>Total</b>	<b>49</b>	<b>100.0</b>

# Results of special studies

- RCT sub-studies
  - **Better retention and outcomes** of i.v. heroin vs. i.v. methadone / morphine
  - **Better outcome** vs. Treatment as usual (waiting list design)
- Pharmacological studies
  - **Low bioavailability of heroin „reefers“**
- Clinical study
  - Applicability, effectivity and acceptability of **oral diamorphine**
- Criminological studies
  - **Significant crime reduction** (self-report & police data)
  - **Reduction of drug-related crime in the city** of Zurich
- Prison study
  - **Feasibility & safety of HAT in prison wards**

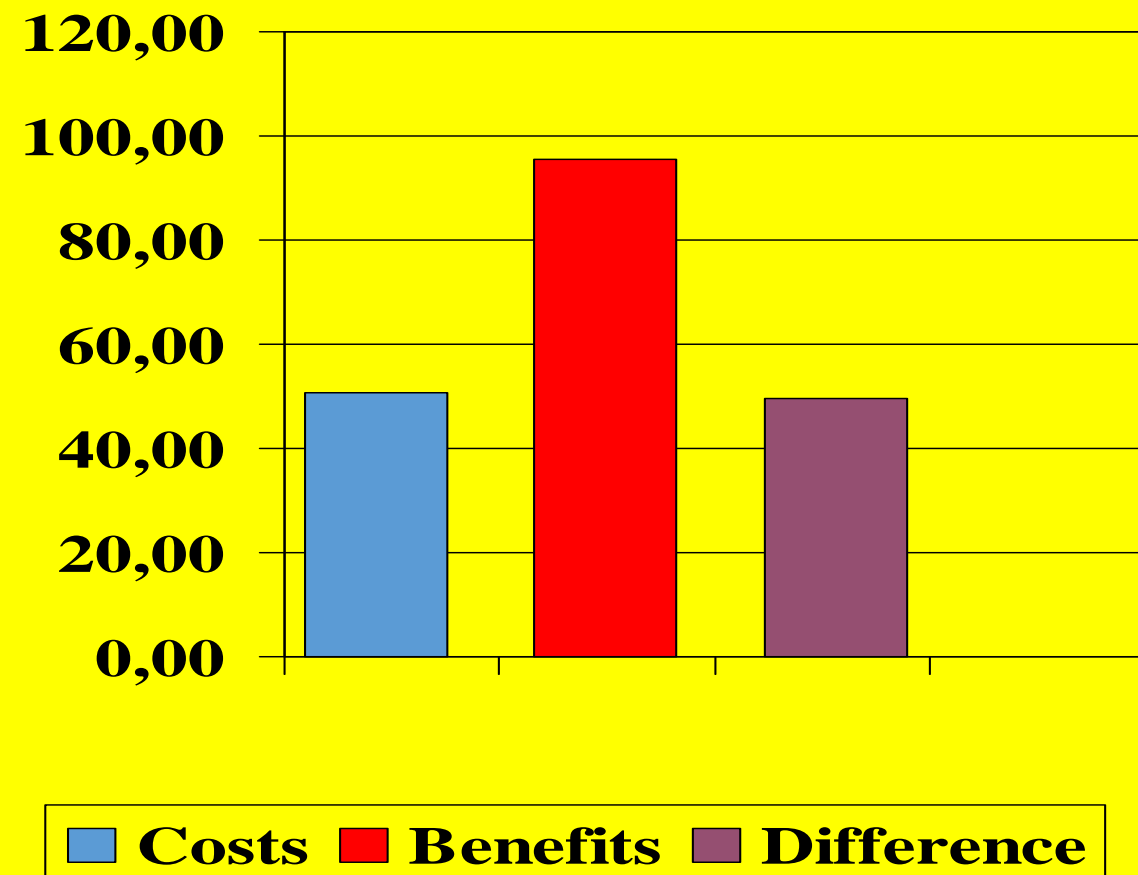
# Cost-benefit analysis of heroin assisted treatment (CH 1996) (Frei et al 2000)

## Costs (SFr) per patient/day

• Direct costs	9.39
• Staff	35.37
• other	5.87
<b>Total</b>	<b>50.63</b>

## Benefits (SFr) per patient/day

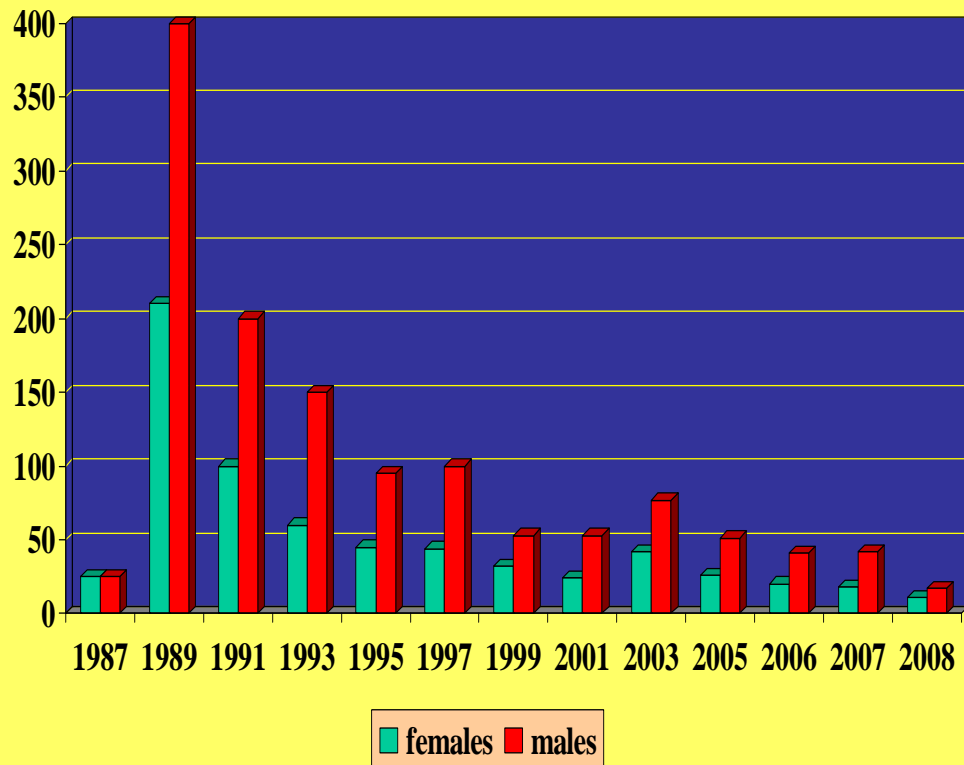
• housing, work	6.31
• Health	17.11
• Delinquency	72.08
<b>Total</b>	<b>95.50</b>



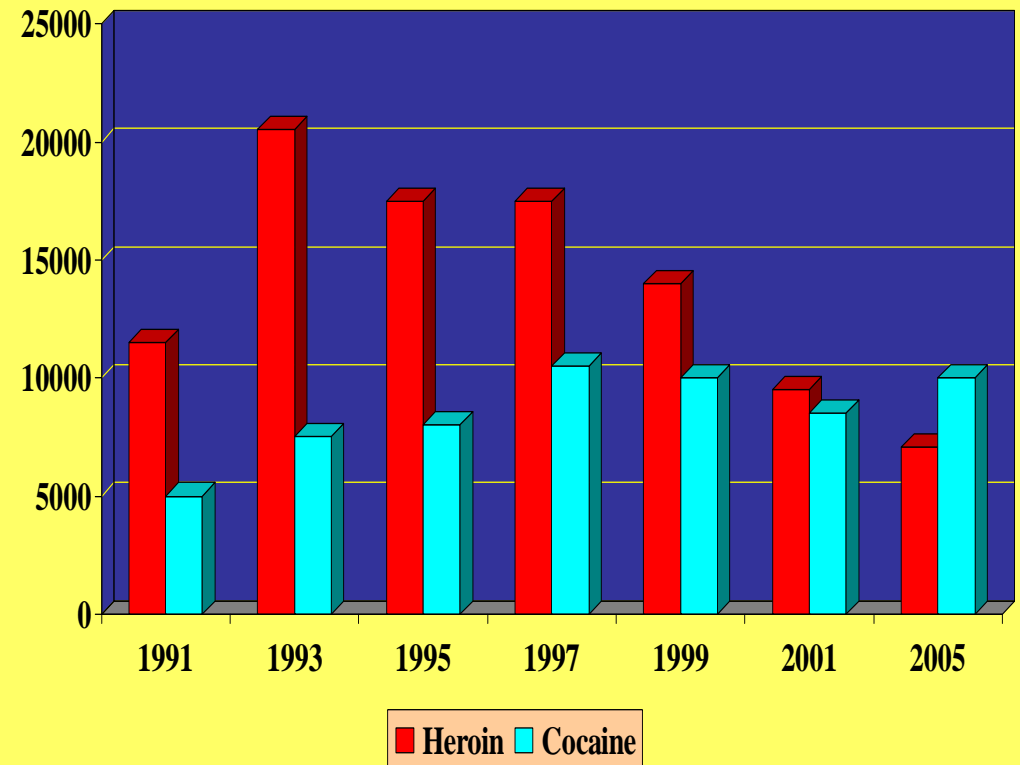


# Changes at population level

## HIV cases in ICPU (Federal Office of public Health 2009)



## Police notifications for drug use (per substance) (Nr of cases, Federal Office Police 2007)



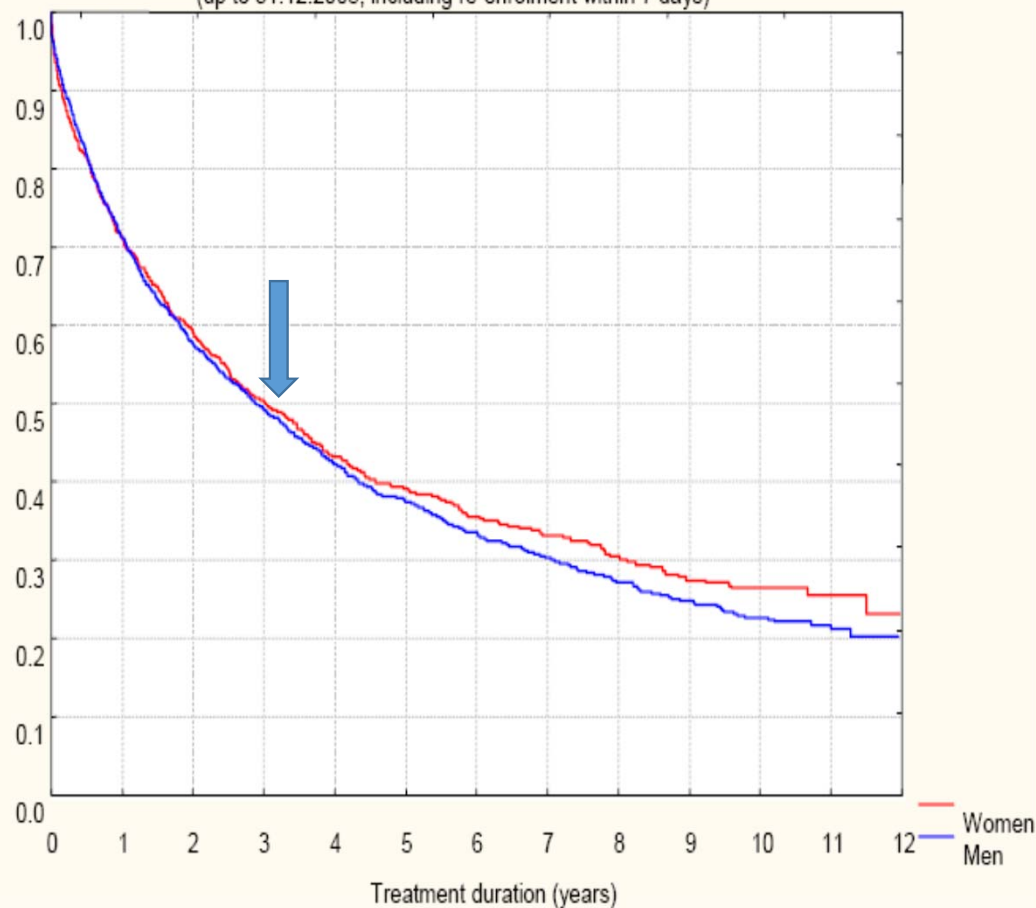
# Negative effects which did not occur

- **No indefinite prolongation** of dependence
- **No increasing dosages** needed
- **No increased attractivity** of heroin
- **No replacement of other treatment** approaches

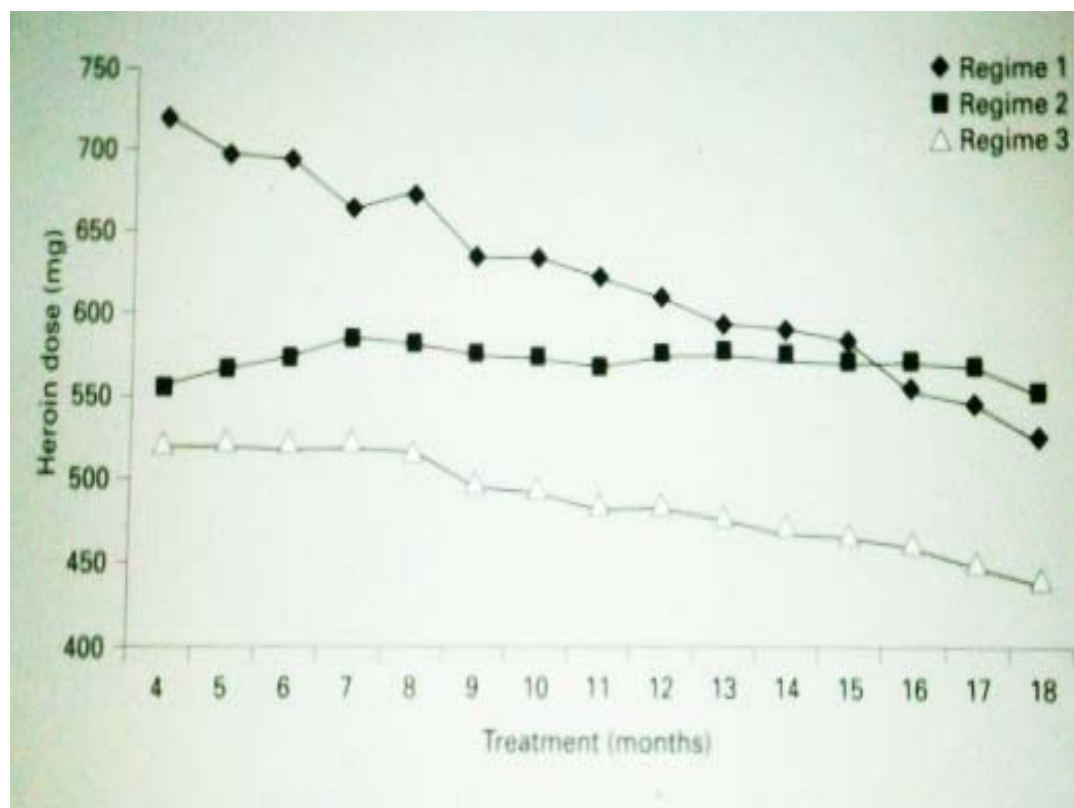
# Duration of participation and average daily dose by month

Retention in HAT, by sex

(up to 31.12.2005, including re-enrolment within 7 days)



Dose curves (average daily dose by month)



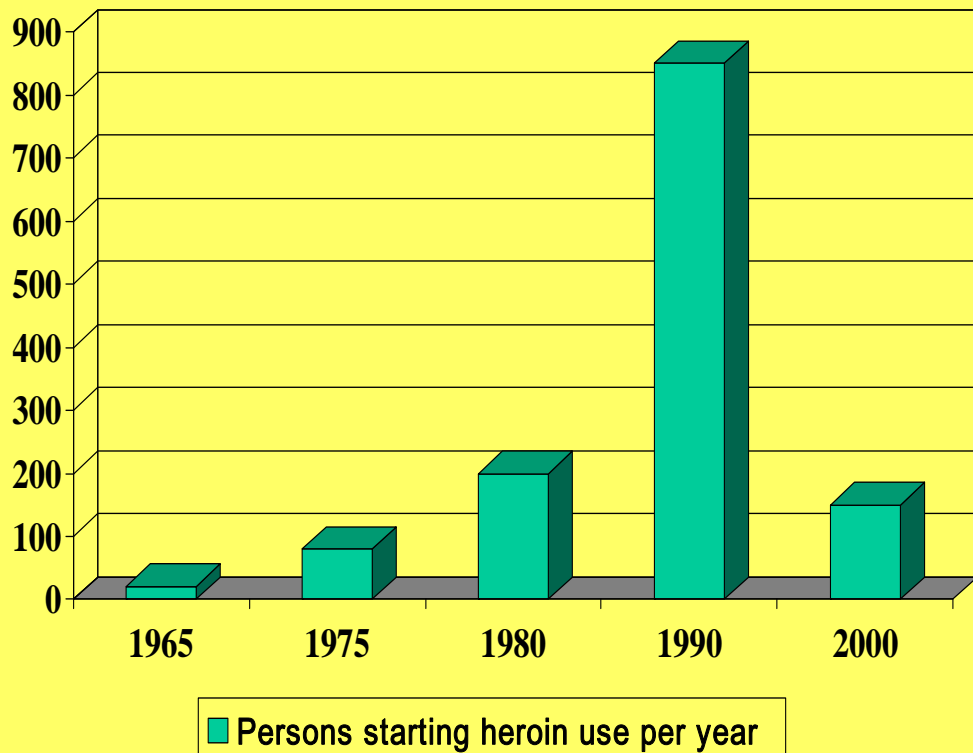
Regime 1 : 88'610

Regime 2 : 92'252

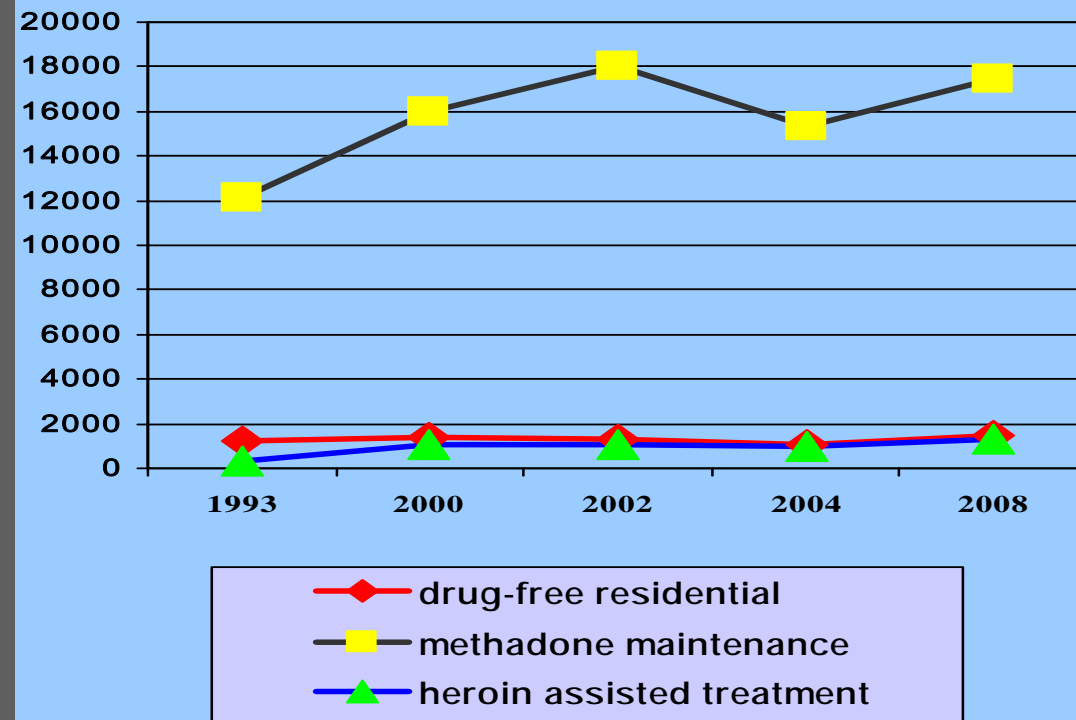
Regime 3 : 317'211

# Changes at population level (2)

Incidence of new heroin users per year  
(Nordt & Stohler, *The Lancet* 2006)



Treatment slots for opiate users CH 1993-2008



# Selected publications

- Uchtenhagen A, Dobler-Mikola A, Steffen T (1999): Prescription of Narcotics for Heroin Addicts. **Main results of the Swiss National Cohort Study**. Karger, Basel
- Ali R, Auriacombe M, Casas M et al (1998). **Report of the External Panel** on the Evaluation of the Swiss Scientific Studies of Medically Prescribed Narcotics to Drug Addicts. **World Health Organisation**, Genf
- Perneger TV, Giner F, del Rio M, Mino A (1998). **Randomised trial of heroin maintenance programme** for addicts who fail in conventional treatments. *British Medical Journal* 317:13-18
- Gutzwiler F, Steffen Th (2000) **Cost-benefit analysis** of heroin maintenance treatment, pp. 37-130. Karger Basel
- Hämmig RB, Tschacher W (2001). Effects of **high dose Heroin versus Morphine** in drug injectors. A double-blind randomised cross over study. *Journal of Psychoactive Drugs* 33:105-110

## Selected publications (2)

- Rehm J, Gschwend P, Steffen T, Gutzwiller F, Dobler-Mikola A, Uchtenhagen A (2001). **Feasibility, safety and efficacy of injectable heroin prescription for refractory opioid addicts** : a follow-up study. The Lancet 358:1417-1420
- Steffen T, Christen S, Blättler R, Gutzwiller F (2001b). Infectious diseases and public health : **Risk-taking behaviour during participation** in the Swiss program for a medical prescription of narcotics (PROVE). Substance Use & Misuse 36:71-89
- Güttinger F, Gschwend P, Schulte B, Rehm J, Gutzwiller F, Uchtenhagen A (2002). **Evaluating long-term effects** of heroin-assisted treatment – the results of a 6 year follow-up. European Addiction Research 9:73-79
- Frick U, Rehm J, Kovacic S, Ammann J, Uchtenhagen A (2006). A **prospective cohort study on orally administered heroin** substitution for severely addicted opioid users. Addiction 101:1631-1639

# Heroin assisted treatment studies international

Country	«Swiss model»	Design	Main outcome	Source
Netherlands	+	2 RCT	++	Van den Brink et al (2003) BMJ 327:310
Germany	+	RCT	++	Haasen Ch et al (2007) BritJPsychiat 191:55-62
Spain	+	RCT	++	March et al (2006) J Subst Abuse Tr 31:203-211
Canada	+	RCT	++	Oviedo-Joekes E et al (2009) NEJM 361:777-786
UK	+	RCT	++	Strang et al (2010) Lancet 375:1885-1895
Denmark	+	No research project	-	Dan Med Agency 2009 Guidance nr 32
Belgium	+	Prepared RCT	-	University of Liège
Nevada	(+)	Pilot project Permanent program	-	HAT Bill 463C-030 HAT Bill 463C-040

Thank you !

