

**«You cant recover if you are dead»
Harm reduction and improving community safety
Middlesbrough 03.09.2018**

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

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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

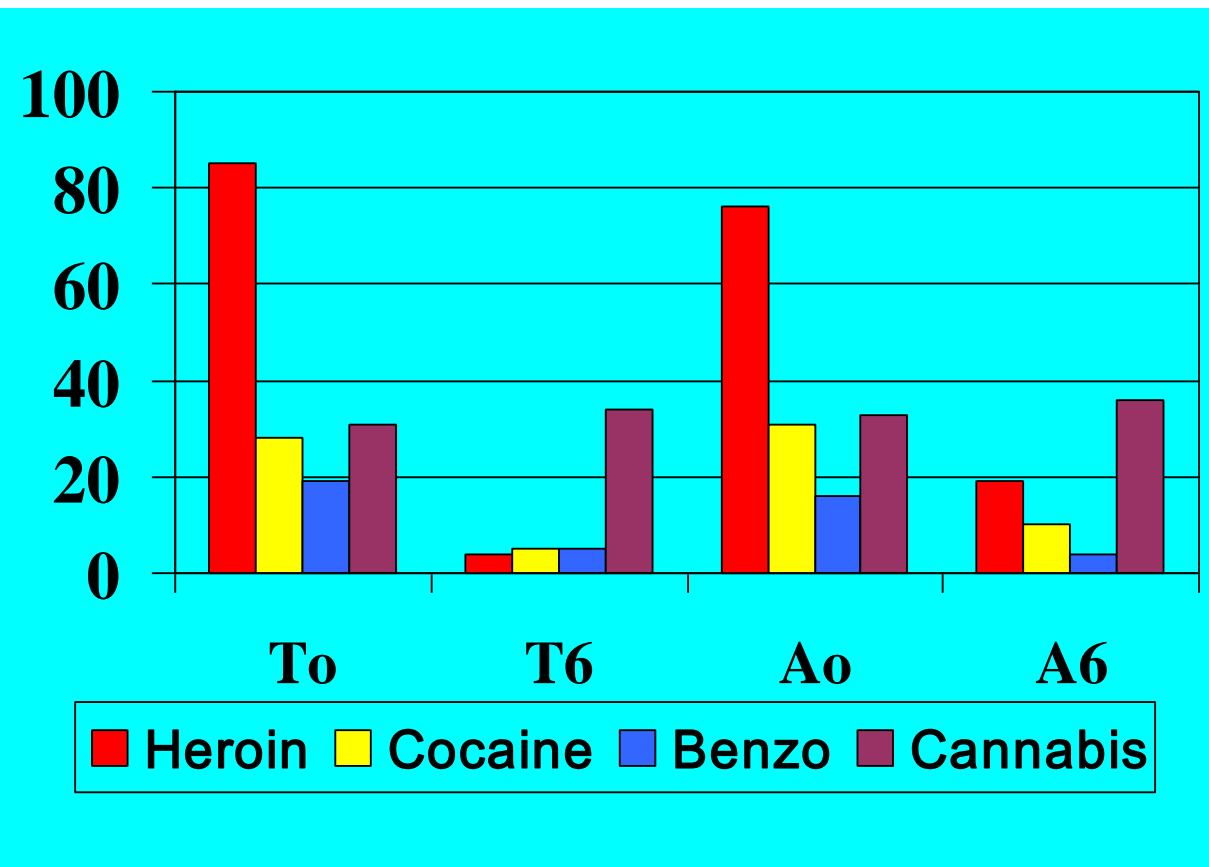
- **Cohort study**, long-term prospective follow-up
- **Randomised controlled substudies** (Geneva with waiting-list design, Bern randomising double blind to i.v.heroin and morphine, Basel randomising to i.v.heroin and methadone)
- **Continuous monitoring** of entries, discharges, side effects, comorbidities,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

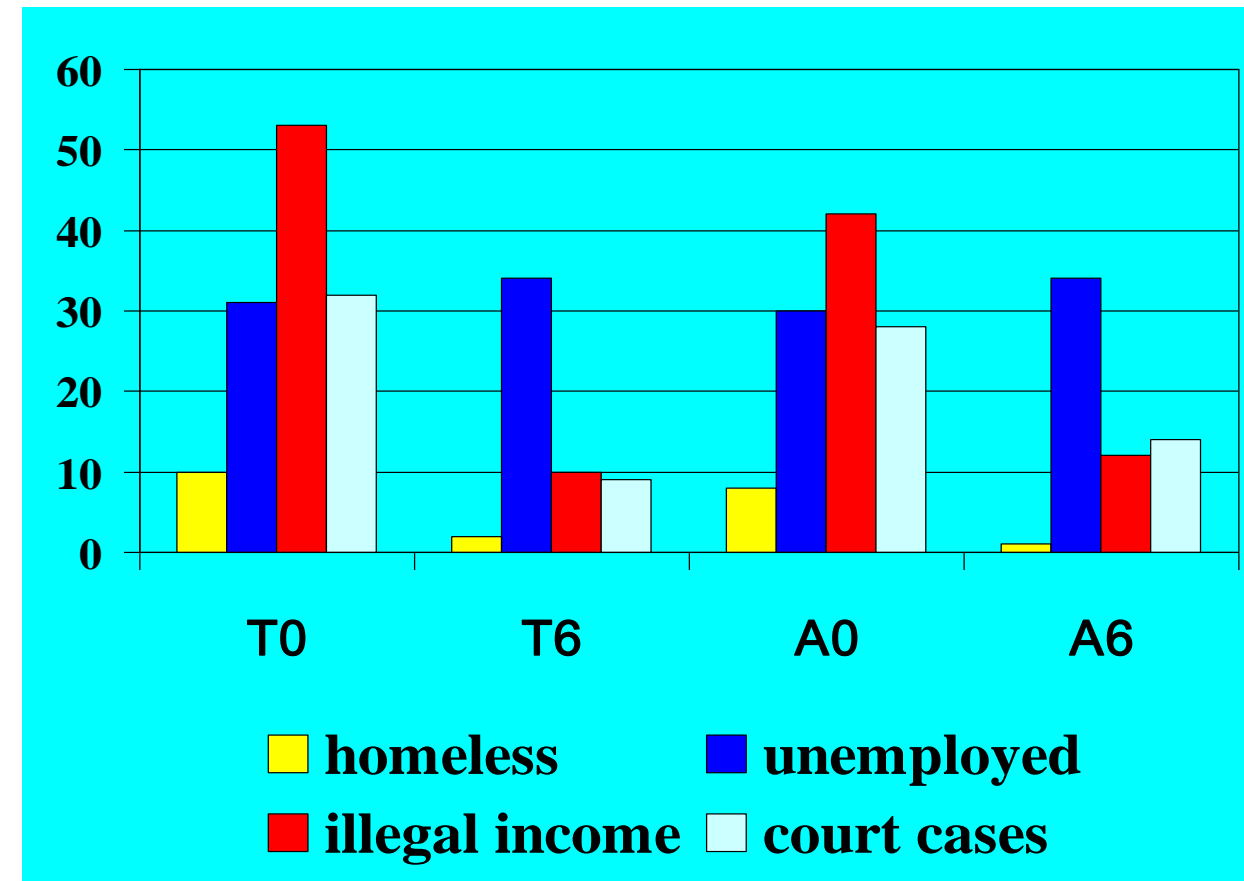
(Gschwend et al 2003)



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
1994-2000	4623.1	49	0.0106

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
Total	49	100.0

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

Total 50.63

Benefits (SFr) per patient/day

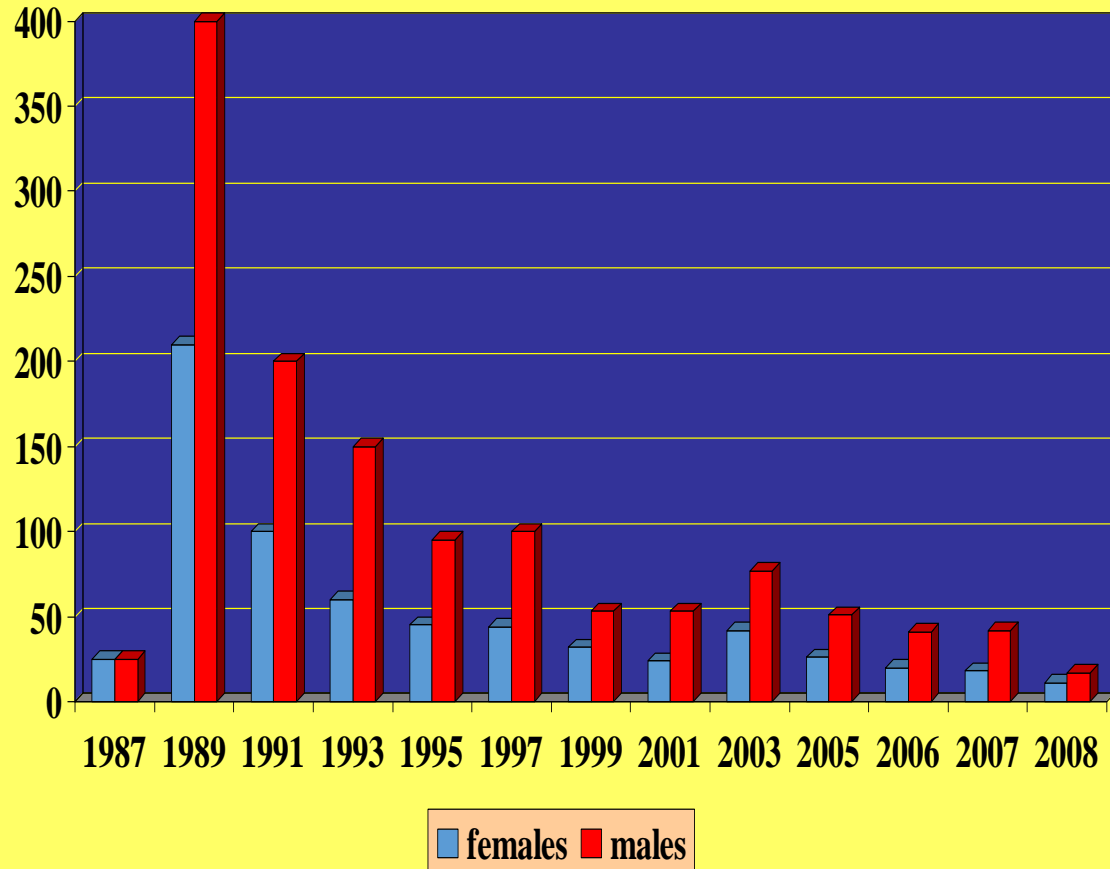
- housing, work 6.31
- Health 17.11
- Delinquency 72.08

Total 95.50

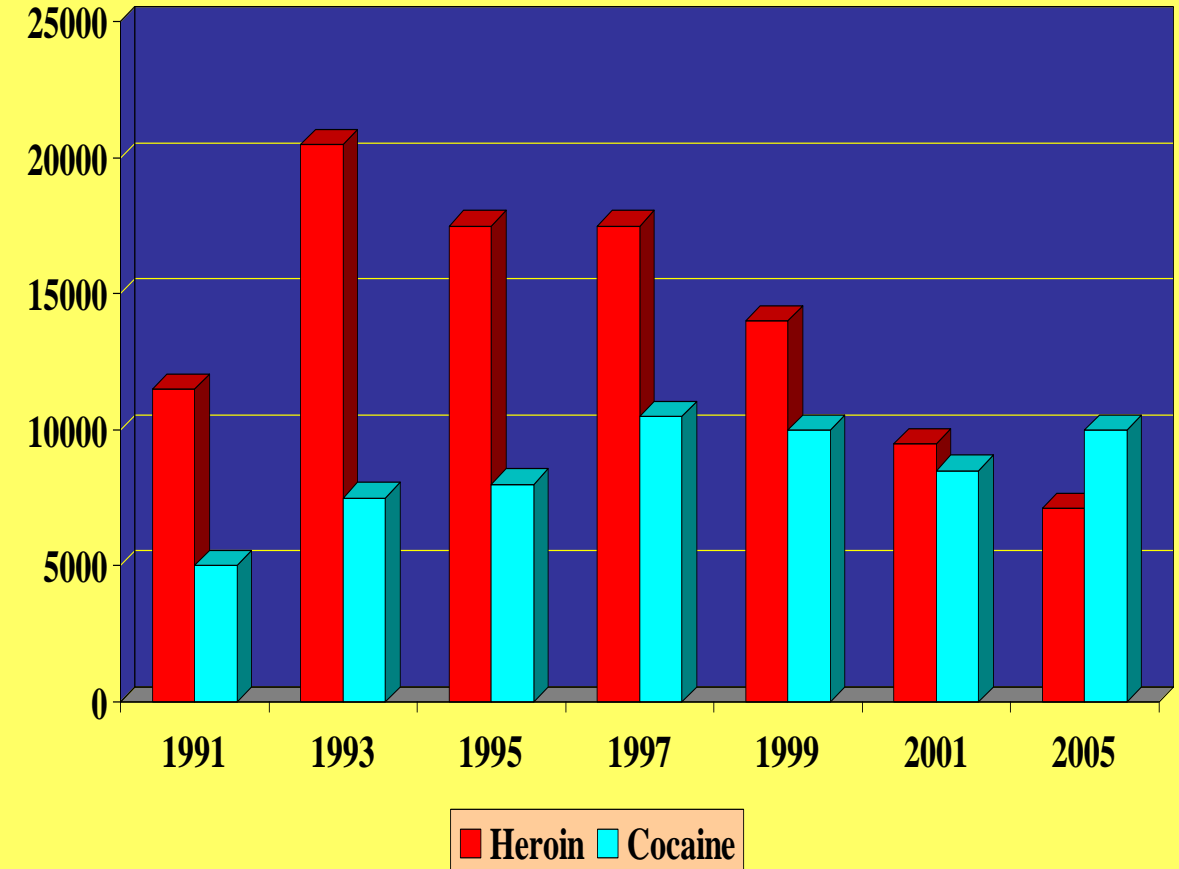


Changes at population level

HIV cases in ICDU (Federal Office of public Health 2009)



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



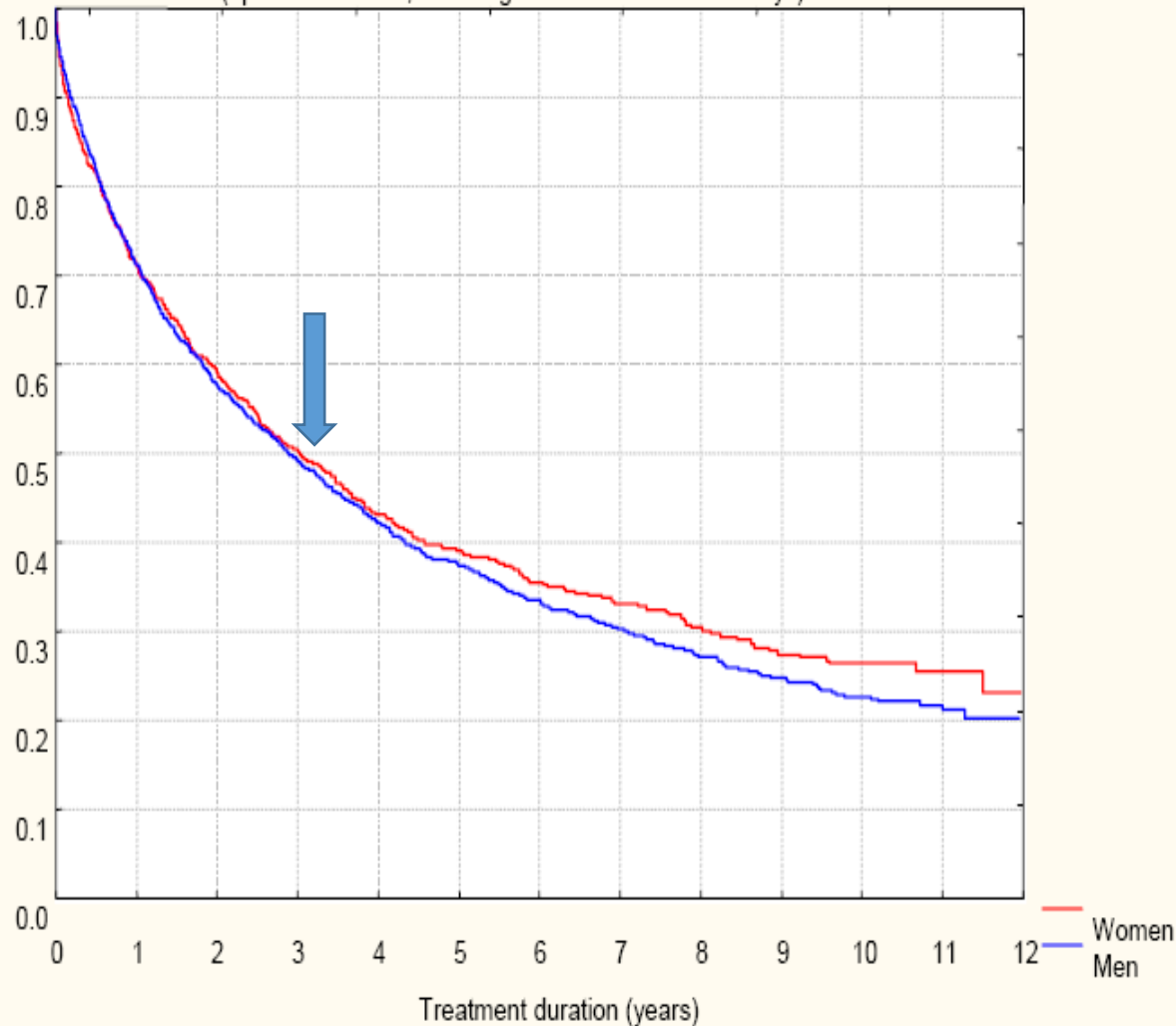
Negative effects which did not occur

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

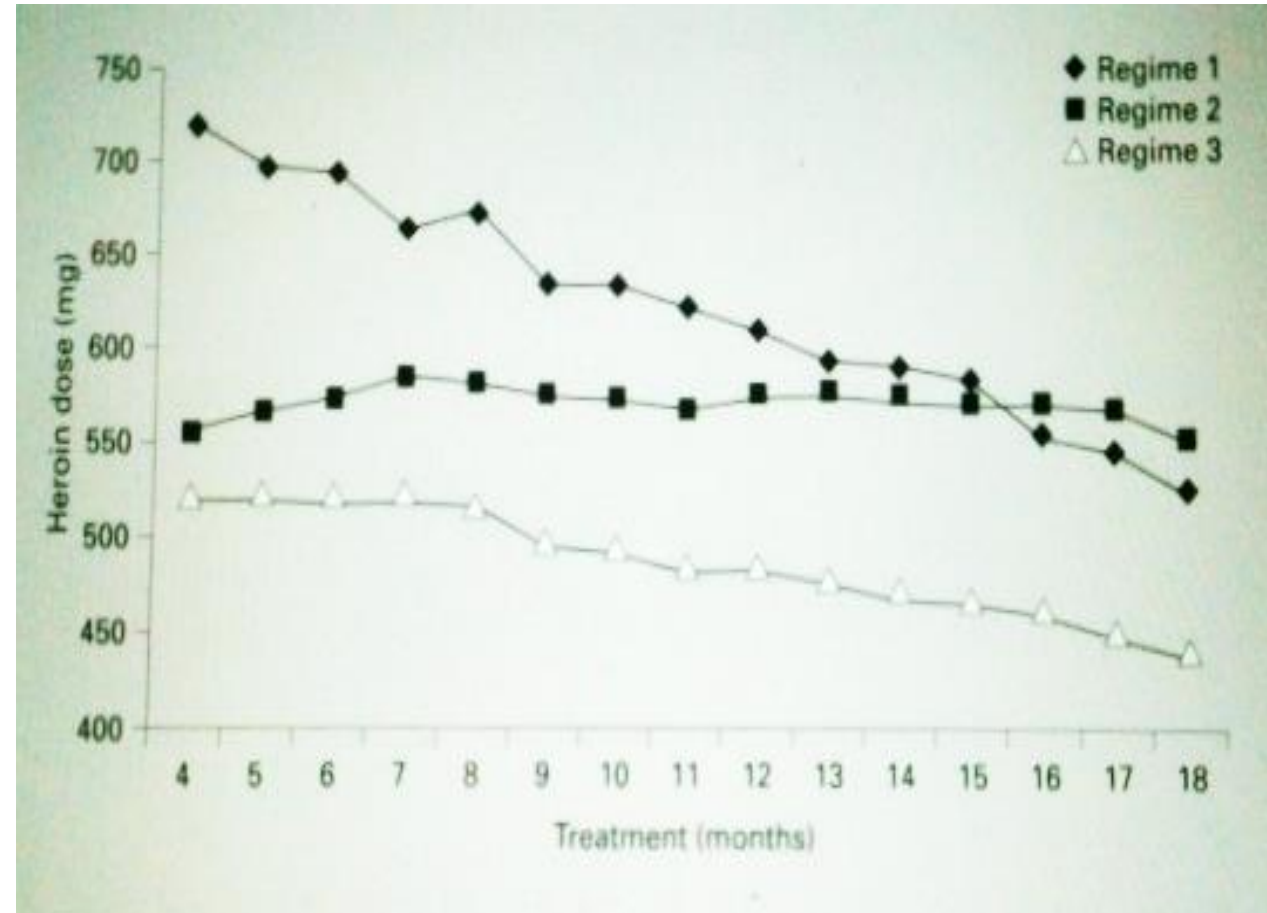
Duration of participation and average daily dose by month

Retention in HAT, by sex

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



Dose curves (average daily dose by month)



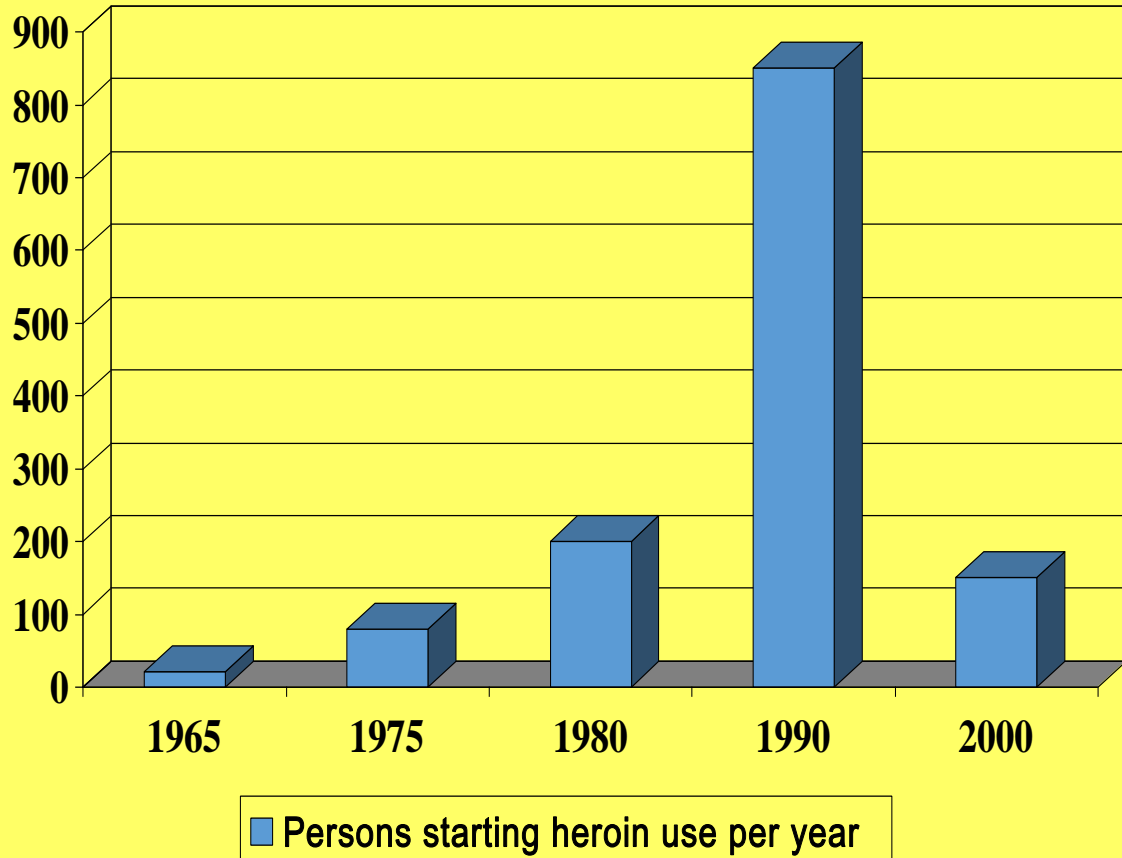
Regime 1 : 88'610

Regime 2 : 92'252

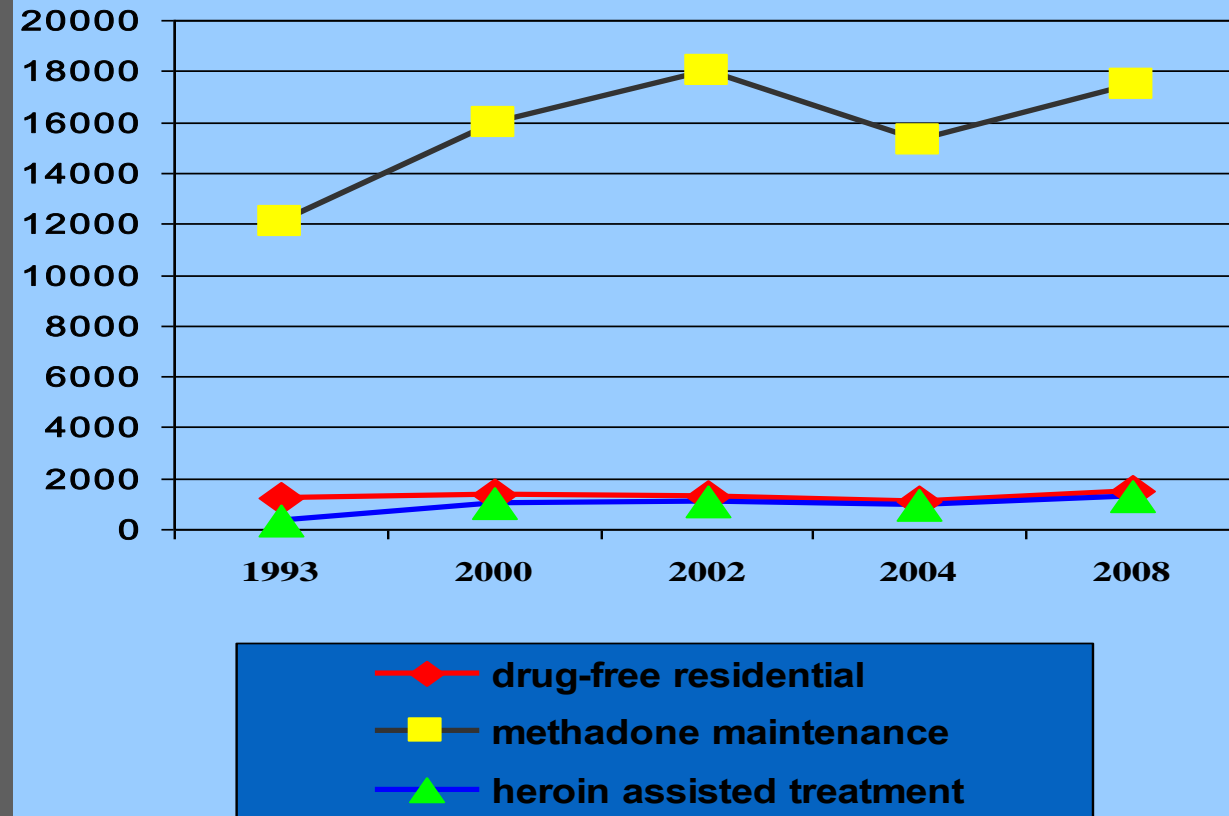
Regime 3 : 317'211

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 !

