Feasibility of Supervised Injectable Opioid Treatment (SIOT)

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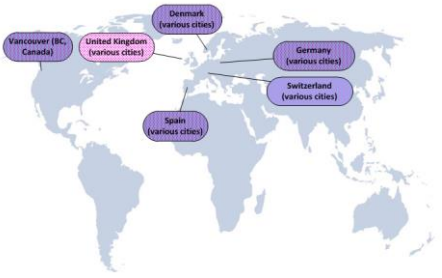
AIMS

- to summarize the experience and evidence around injectable opioid treatment internationally
- to seek consensus among the workshop participants about the need for and the feasibility of this treatment option in Australia



Australian "heroin trial" 1997

- **well-designed RCT** with pharmaceutical heroin
- **prime minister John Howard refused** to make the necessary regulatory steps to accommodate for the trial
- significant opposition from the **tabloid media** (namely the Daily Telegraph)
  - ❖ *"U-turn in tough on drugs approach"*
  - ❖ *"enabling addicts with governmental heroin supply"*

FIGURE 1. CARTOON BY WARREN, *THE DAILY TELEGRAPH*, 5 AUGUST 1997. REPRINTED WITH PERMISSION OF WARREN BROWN.

SOURCE: Lawrence, Bammer & Chapman, 2000.

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From "heroin trial" to "treatment as usual"

1st Australian proposal for heroin trial presented by the Select Committee for HIV, Illegal drugs and Prostitution of the ACT Legislative Assembly followed by a two-stage feasibility study by the Australian Institute of Criminology **1991**

1st Australian trial rejected by the John Howard Government **1997**

An Australian trial using injectable hydromorphone proposed (not implemented) **2004**

Australian National Council on Drugs (ANCD) prepares another proposal for a heroin treatment trial; not pursued **2008**

1991

Swiss trial of supervised injectable heroin for treatment-refractory patients (from then on, all trials follow this treatment design) **1995 – 1996**

German trial with injectable heroin involving approx 1000 patients **2002 - 2003**

British trial (RIOTT) using injectable heroin and injectable methadone **2005 - 2007**

Canadian trial comparing pharmaceutical heroin with hydromorphone (SALOME) **2013 - 2014**

2017

Dutch trial on injectable heroin (similar to the Swiss one) **1998 - 2000**

Spanish trial on injectable heroin **2002 - 2003**

Canadian trial on injectable heroin involving small group on hydromorphone (NAOMI) **2005 - 2008**

Belgian trial loss of treatment effect when discontinued **2013**

Prescription on pharmaceutical heroin in addiction treatment in the UK (ambiguous outcomes) ***1970s – 1980s***

Injectable treatment with methadone conducted in Queensland, Australia (not evaluated) ***1970s***

Denmark has started supervised heroin treatment upon the existing evidence **2009**

Cochrane systematic review on supervised heroin treatment published **2011**

The British Journal of Psychiatry systematic review published **2015**

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Supervised Injectable Opioid Treatment

Supervised Treatment Regimen

- self-administration (IV / IM)
- all doses supervised – adverse events managed onsite
- 2-3 times per day (or less with OM); not a honeypot (recruitment issues)

Target Group

- 5-10 % of opioid-dependent patients continue *injecting illicit drugs* and experience severe psycho-social harms (Lintzeris, 2009)
- don`t benefit from treatment options (no treatment **or** in treatment 1 – 6 months, 50-80mg oral methadone)

Treatment Location

- stand-alone clinic (Canada, UK)
- regular OTP clinics (the Netherlands, Switzerland)

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PHOTO: SIOT patient from Vancouver self-administering medication at the Crosstown Clinic, (CBC, 2016).

Supervised Injectable Opioid Treatment

Medication

- some patients *need a more "rewarding" drug* in order to comply with treatment (Bell, 2014)
  - ✓ injectable (buprenorphine, methadone ?)
  - ✓ "short-acting" (heroin, hydromorphone)
- combined with oral methadone and/or SROM; flexible dosing

Outcomes

- reduction in illicit opioid use
  - ✓ ? *other drug use: German trial showed* ↓
  - ✓ decreased criminal activity
  - ✓ free-up time from drug seeking
- retention in treatment
  - ✓ opportunity to address health and social issues, reconnect with families

PHOTO: SIOT patient from Vancouver Crosstown Clinic with her daughter (CBC, 2016).

Mechanisms: structure provided via the program; clinically use the "motivational salience"

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Bell, J., Waal, R. V. D., & Strang, J. (2017). Supervised Injectable Heroin: A Clinical Perspective. *The Canadian Journal of Psychiatry*, *62*(7), 451-456.

Supervised Injectable Opioid Treatment (SIOT) vs. Oral Methadone (OM) - systematic reviews

SIOT significantly more effective than OM:

↓ less use of illicit heroin across the trials[1]

↑ increased retention in treatment (RR=1.37); i.e. SIOT participants were 40% more likely to remain in treatment[1]

↓ reduced criminal activity[2]

↑ improved social situation[2]

↑ improving physical and mental health[2]

1 non-inferiority RCT injectable diacetylmorphine vs. hydromorphone

ADVERSE EVENTS:

↑ serious adverse events probably or definitely linked to the medication (RR=4.99*; RR=13.5[2]); 5 – 14 times more likely

- 6 deaths among SIOT participants vs. 10 among the OM recipients[1,2]

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[1] Strang, J., Groshkova, T., Uchtenhagen, A., van den Brink, W., Haasen, C., Schechter, M. T., Oviedo-Joekes, E. (2015). Heroin on trial: systematic review and meta-analysis of randomised trials of diamorphine-prescribing as treatment for refractory heroin addiction. *The British Journal of Psychiatry, 207*(1), 5-14.; [2] Ferri, M., Davoli, M., & Perucci, C. A. (2011). Heroin maintenance for chronic heroin-dependent individuals *The Cochrane Library* (Vol. 12).

Cost-effectiveness

- ✓ **high yearly cost per patient (EUR 12 700 – 20 400)**
- ✓ **savings mainly in the cost of crime and law enforcement**
- ✓ **SIOT cost-effective**

The Netherlands *(Dijkgraaf et al., 2005):*

- per year 0.058 QALYs and mean saving of GBP 12 793

Canada - NAOMI *(Nosyk et al., 2012):*

- lifetime 0.44 QALYs and mean saving USD 40 000

United Kingdom - RIOTT *(Byford et al., 2013):*

- OM dominated by injectable heroin and injectable methadone
  - injectable methadone more cost-effective than injectable diamorphine

RIOTT	Cost of treatment	Overall (social) cost
Injectable diamorphine	GBP 8995	GBP 15 805
Injectable methadone	GBP 4674	GBP 13 410
Oral methadone	GBP 2596	GPB 10 945

KEY QUESTIONS FOR THE AUSTRALIAN AOD SECTOR

1] Is SIOT needed in Australia?
2] If so, which opioids should it be pursued with?
3] How should the eligibility criteria be defined in Australia?
4] Where should the treatment / trial take place?
6] Do we need more research and if so, what design?
7] How do we ensure consumer voice is included?
8] What is the opportunity cost of SIOT?
9] What other barriers & facilitating factors are there?
10] Any other questions?

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Conclusions (?)

1. **opioid misuse** remains significant and public health burden is large
   - high-potent opioids might cause immediate emergency, should be ready
   - populations like Uniting MSIC clients are in need of new treatment options
2. **time for Australia** to reflect on the international evidence on injectable opioid treatment and to (once-again) become leader in drug policy ?
3. there seems to be **enough evidence on SIOT with diacetylmorphine** (pharmaceutical heroin) to be introduced anywhere in the world
4. **injectable hydromorphone** (already registered in Australia for pain) could be potentially introduced with less controversy than pharmaceutical heroin
5. ?
6. ?
7. ?

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Thank you!

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