Methadone related deaths in Europe: analyses using the methadone-OD4 index in four countries

*Methadone prescribing and methadone related deaths: what is the link?*

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Background

- Evidence of methadone related OD
- John Strang BMJ 2010: OD4 index
  - Methadone-related Overdose Death/million Defined Daily Dose of prescribed methadone
  - England and Scotland
  - 1993-2008

Methods of Strang *et al*

- **Case definition:**
  - Deaths due to methadone in which methadone was the only drug present and
  - Deaths due to overdose in which methadone was one of the two or more drugs present
- These calculations produce 2 versions of the index:
  - OD4-methadone (*sole drug*)
  - OD4-methadone (*any mention*)

- Prescription data
- Policy initiative (introduction and spread of supervision)
Introduction of supervised methadone dosing was followed by substantial declines in deaths related to overdose of methadone in both Scotland and England.

OD4-methadone index analyses, controlled for substantial increases in methadone prescribing in both countries, identified at least a fourfold reduction in deaths due to methadone related overdose per defined daily dose (OD4-methadone) over this period.
Our objective and what has been done so far

- Last year: review of the data with experts in AT, DK, FR, IE
  - sources, numbers, limitations, analyses, interpretation
- Shared with other experts for comments, and possibly participation when their data allow
- Agree on further analyses, considering additional countries
Objectives in the draft paper

- To describe national patterns of methadone prescribing
- To describe the relationship between deaths related to overdose of methadone and the volume of prescription of methadone, and changes in European countries from 1998 to 2010
- To analyse methadone related overdoses against different OST systems and users characteristics
• 10 countries initially included but several failed to generate suitable data for an OD4 comparison
  • FR and SP excluded because estimates of the quantities prescribed are based on assumptions of numbers in treatment
  • PT, LT, NI, W excluded because no data over long time, or data did not come fully from approved data sources, or the population was too small for analyses to be meaningful (possible large change in OD4 with small change in deaths).

• OD4 index only compared for DN, FI, IE and NO where the data are strong enough to allow a national story and a country-level case analysis

• OD4 should be constant overtime even if the size of the problem increases, or the size of the treatment response changes (if all other things remain equal)
Methadone all cases (only plus any mention)

1996 onwards. England: services gradually begin to introduce supervised consumption


2000. England: supervision is recommended for first 6 months of treatment

Changes in supervision rules in Norway with progressively more take home dose

2010: 3000 patients in Norway

1996 onwards. England: services gradually begin to introduce supervised consumption

OD4-methadone index

Year

Denmark  Norway  Ireland  England  Scotland

emcdda.europa.eu
OD4 Methadone index in Finland

Methadone only plus any mention

Methadone dispensed only in specialised treatment centres. Typically, has been used for 'difficult' cases and, HDB is much used for younger abusers.

3 deaths

27 deaths
Finland: some possible reasons for a high index?

- Relatively old population of POU
- High frequency of injection
- Large and possibly increasing availability of diverted methadone
- Relatively limited access to prescribed methadone which is only dispensed in specialised treatment centres might lead certain patients to use other substances to top up their treatment
Conclusions

- Striking difference in the profiles of treatment systems – not presented
- There are very different levels and trends of OD4-methadone index suggesting different levels of prescription safety
- Further knowledge of modifiable factors to increase prescription safety at country level is needed
• The findings raise the question of whether some ‘profile’ of methadone treatment system, including coverage, access, initiation and dispensing can achieve even greater reduction in deaths related to overdose of methadone.

• In addition, the characteristics of the victims, including their age, injection, polydrug use, history of prison problems and pathway through methadone and other treatments should be investigated.