



# Neonatal Abstinence and Methadone

Presentation to CAPHC  
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# Narcotic Addiction

- Narcotics are becoming the “drug of choice” in much of NA.
- Illicit
- Prescription



**Figure 1. Admissions to the Medical Withdrawal Management Service for opioid detoxification, 2000-2004:** *The number of admissions increased over the 5 years (2000, n=78; 2001, n=96; 2002, n=120; 2003, n=111; and 2004, n=166). Of the 571 admissions, 295 involved 1 opioid, 204 involved 2 opioids, 68 involved 3 opioids, and 4 involved 4 opioids.*

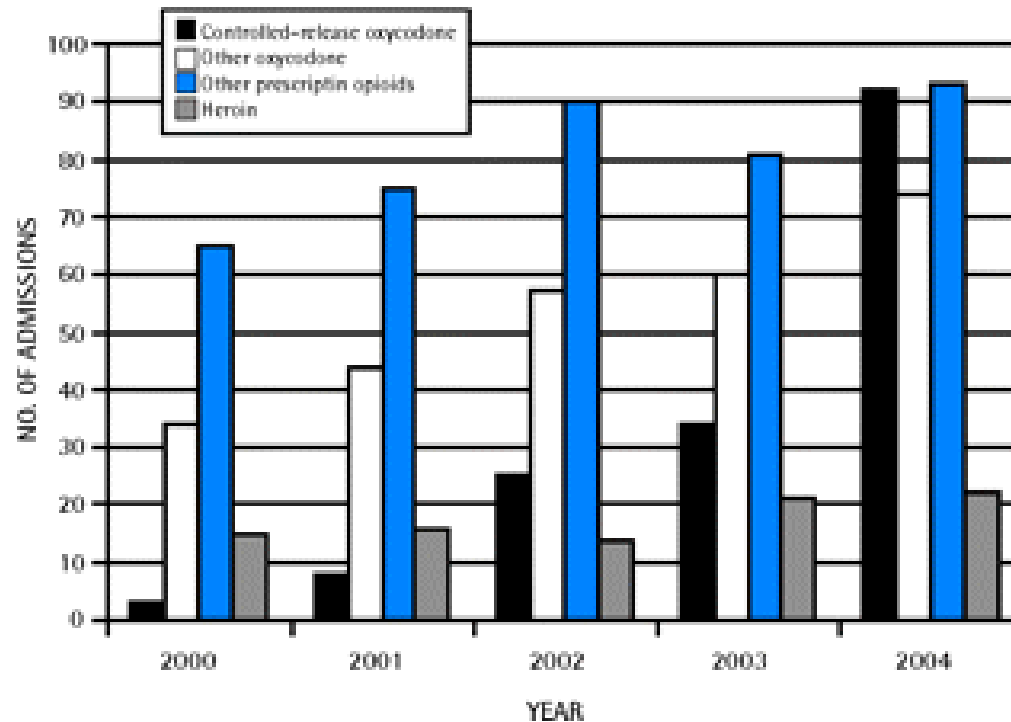
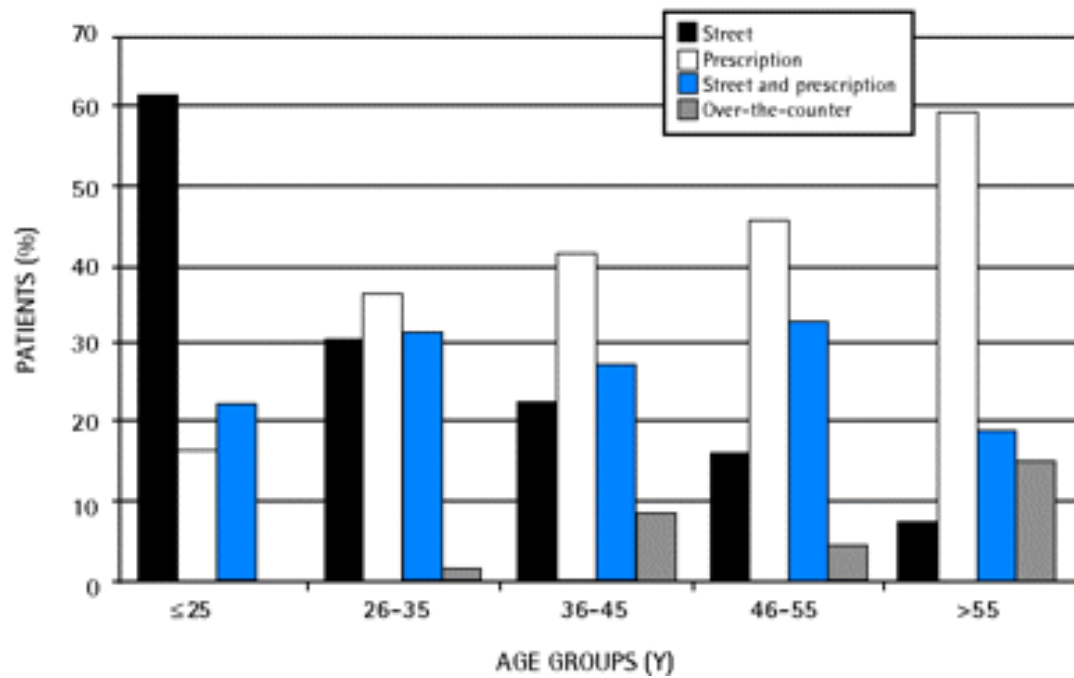




Figure 2. Prescription opioid source by age group





# Magnitude of the Problem

- Up to 50 % of prescribed oxycodone in Ontario is resold “on the street”
- Methadone clinics to treat withdrawal are becoming more common place
- With methadone clinics, Neonatal Withdrawal becomes more common place



# Methadone: How it Works?

- Treats opiate withdrawal by occupying receptors without giving the high
- Effective for pain control
- Also affects the NMDA receptor population
- Decreases drug seeking behaviour
- Allows for a slow, controlled withdrawal under monitored conditions



# Methadone: Why is it so regulated?

- Regulated, especially for withdrawal
- Relatively narrow therapeutic window
- Respiratory depression
- Stigma of sanctioned medication for drug addicts



# Drug Screening

- Urine, Hair, Meconium
  - Urine – short term
  - Hair – 3<sup>rd</sup> trimester
  - Meconium – 2<sup>nd</sup>-3<sup>rd</sup> trimester
- Opiates Versus Opioids
  - Opiates – morphine, heroine, codeine, oxycodone, hydromorphone, hydrocodone
  - Opioids – synthetic – Fentanyl, Demerol, methadone
  - Opiates are detected on screen
  - Opioids are not detected
  - Low sensitivity to oxycodone



# Drug Screening

- Ethics and Consent
  - What is the balance between health care and violation of rights?
- With Methadone - “Carries”
  - Once drug free for three months methadone can be taken home for more prolonged periods



# Addiction During Pregnancy

- Heroin, “street” oxycodone - unregulated
- Drug seeking behaviour
- Methadone offers stability
  - What should women be told about methadone in pregnancy?
  - What is informed consent?



## Size of the Problem

- ~ 30 pregnant women are receiving methadone at any time in London
- Estimated that there will be ~50 babies in London exposed to methadone *in utero*
- Estimated that ~ 500,000 people are on an MMP (Canada)
- Hundreds of acute care hospital patient days annually for Neonatal Withdrawal (Ontario)



# Neonatal Abstinence

- Effects of Withdrawal
  - Constellation of signs and symptoms of withdrawal
  - Finnegan Score (1975)
    - CNS, GI, respiratory, vasomotor, metabolic
- Environmental control is very important to non-pharmacologically control symptoms
  - Quiet
  - Low light
  - Containment
  - Feeding



# Neonatal Abstinence

- Methadone adds structure to withdrawal but prolongs the process of withdrawal for babies
- Treatment
  - Morphine
    - Sometimes Pb, Clonidine
  - Length of treatment
    - 4 - 6 weeks
  - Location of treatment?



# What Are the Goals of Treatment in Pregnancy?

- Withdrawal from narcotic dependence
  - Mother
  - **Baby**
- Healthy pregnancy
- Safety
- Maternal success and self esteem
- Family health



# SJHC Program for Hospital and Non-Hospital Based Treatment of NAS



# Post-Birth Stabilization and Assessment

- Mother-baby couplet care until withdrawal noted and treatment required
- NICU when treatment required
  - Oral, IV morphine
  - Clonidine
- Stabilize dose to control withdrawal



# Pharmacy Support

- Pharmacist actively involved in assessment, treatment plan and education
- Calendar and Scheduling
  - Detailed schedule for weaning



# Weaning

- How fast to wean?
  - Slow, symptom free
  - Low threshold symptoms
    - Finnegan Score  $< 9$
    - Wean 10% if  $< 9$
    - Faster, but persistent symptoms



# Assessment of safety

- Assessment in hospital
  - Observation
  - Care by Parent
  - Not only for mom
- Public Health
- Children's Aid Society Involvement
  - Usual, not mandatory
  - Nursing available if Public Health declined



# Other Supports

- Family
- Partner
- Friends
  - May need to change circle of friends
- Community – many groups invested in success
  - Heartspace
  - Others, depending on community



# Discharged on Morphine

- Under the care of:
  - Mother
  - Father
  - Other family members
  - Foster care



# Drug Dispensing

- Depends on team comfort
- Morphine
  - Generally 1000 mcg/ml
  - 100 mcg/ml in doses less than 100 mcg
  - When receiving new medication previous vial must be returned
  - All dispensing at SJHC
- Close monitoring



# Drug Dispensing

- Other options
  - Day by day
  - Public health
  - CCAC
  - Methadone clinic
- Expensive
- System not set up to accommodate
- Much less expensive than Hospital stay



# Determinants of Health and Long-Term Family Health



# What are Obstacles?

- Prejudices and biases
- Attitudes
- Safety
- Family and individual history



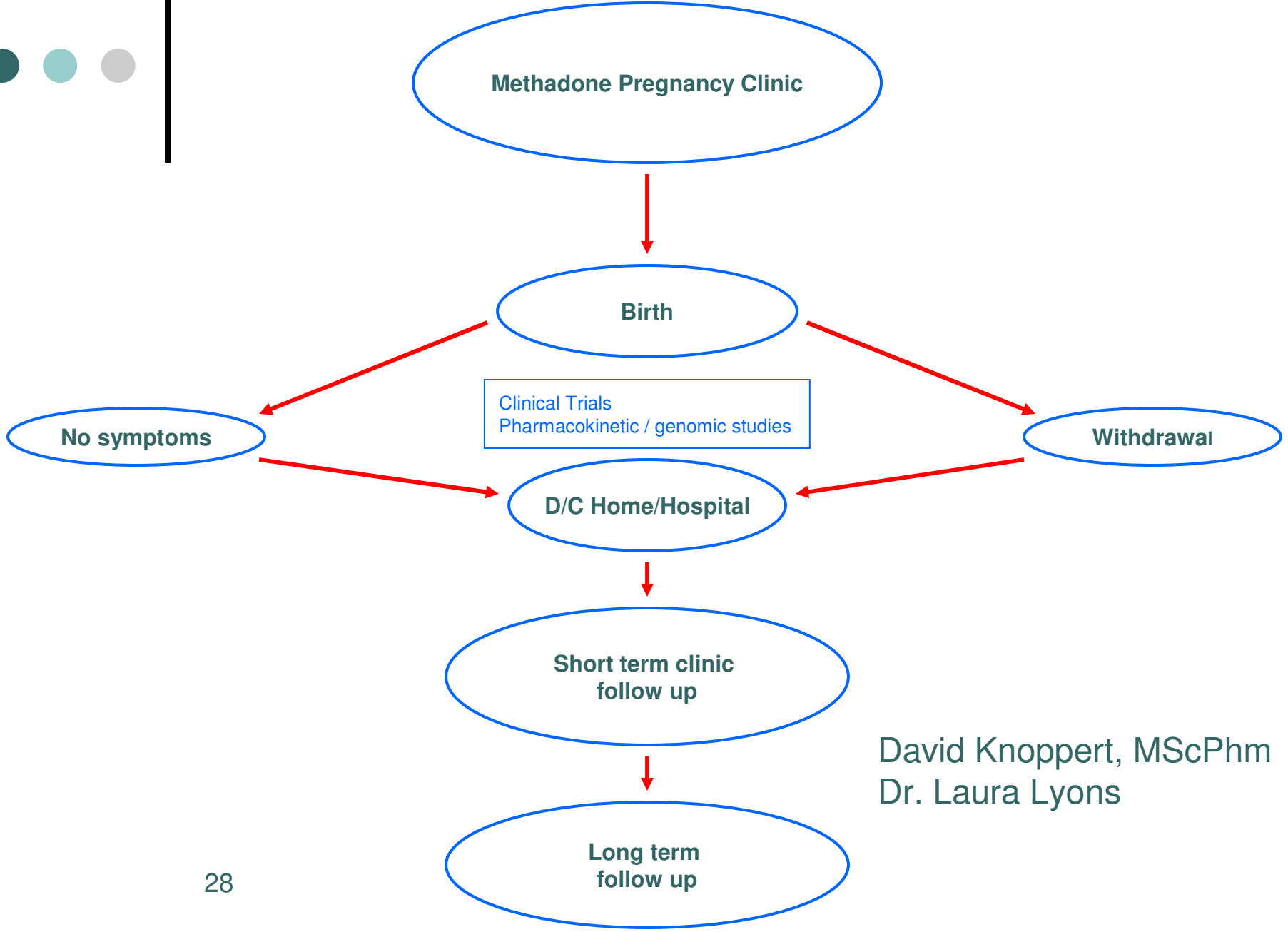
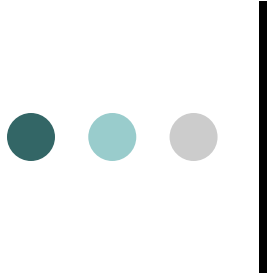
# How Can We help?

- Pregnancy is a landmark motivator in a women's life
  - Highly motivated
- Need trust
- Positive attitude
- Facilitating small success
- Facilitate community integration
  - CAS, CAS Nurse, Public Health, Heartspace



# London Methadone Pregnancy Clinic

- Multidisciplinary
- Antenatal, postnatal
- Community supports
  - Heartspace
  - Public Health
  - CAS



David Knoppert, MScPhm  
Dr. Laura Lyons



# Pitfalls



# Safety?

- Overdose
- Coroner
- Paediatric Death Review



# Result

- May result in mandated hospital stay
- Is that the right thing to do?
  - Is it best for baby?
  - Is it best for the mother and family success?
  - Is it legal?
    - Would forced admission stand up in court?



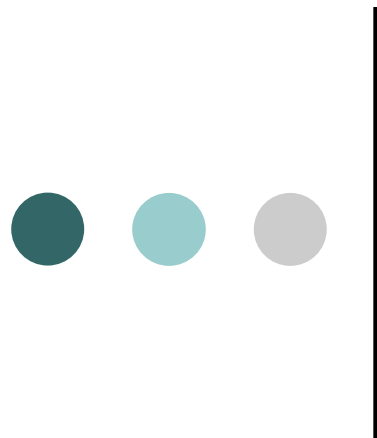
# Summary

- Narcotic addiction common, even in pregnancy
- Pregnancy is a landmark motivator in a women's life
  - Opportunity for change
- Methadone a useful treatment adjunct
- Neonatal Withdrawal common



# Summary

- NAS is a large user of neonatal resources
  - Often hospital based
  - Average ~ 50 days per baby
  - How does this affect bonding and family development?
- Is there a safe alternative to hospital based therapy?



# Questions?

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