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# Substance use and pregnancy: The journey of improving outcomes for mum and bubs

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# Background

- BSc Honours University of Adelaide
  - Effects of methadone on the menstrual cycle
- PhD Pharmacology University of Adelaide
  - Buprenorphine and methadone in pregnancy
- Drug and Alcohol Services South Australia
  - Illicit Drug Reporting Scheme (IDRS)
  - *“Comorbidity of mental disorders and substance use: A brief guide for the primary care clinician”*
  - Designer Drug Early Warning System



# Opioid maintenance pharmacotherapies

- Methadone and buprenorphine are used as maintenance pharmacotherapies to promote abstinence from illicit opioids.
- Suppression of withdrawal while minimising opioid side effects.



# Neonatal Abstinence Syndrome (NAS)

- Sudden cut-off from supply of drug that mother used during pregnancy
- “Generalised disorder characterised by signs and symptoms of central nervous system hyperirritability, gastrointestinal dysfunction, respiratory distress and vague autonomic symptoms that include yawning, sneezing, mottling and fever”
- Requires treatment and long infant hospital stays



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# Aim of maintenance pharmacotherapy

Suppression of withdrawal while minimising opioid side effects



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# “New pregnancy aim” of maintenance pharmacotherapy

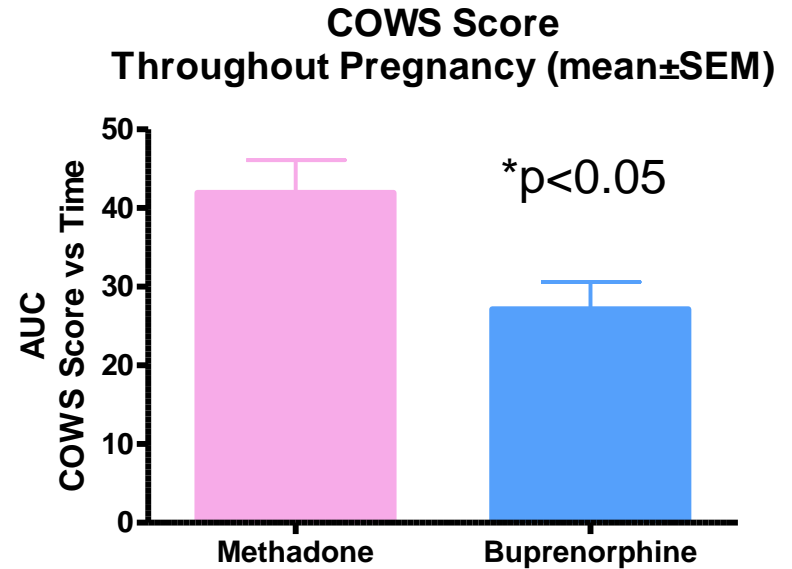
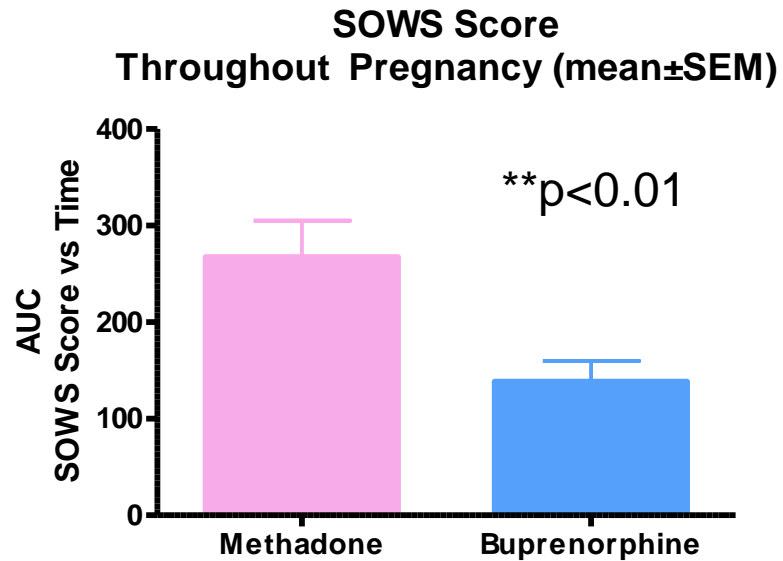
Suppression of withdrawal while minimising opioid  
side effects in the mother

+

Minimise NAS in the newborn



# Maternal withdrawal

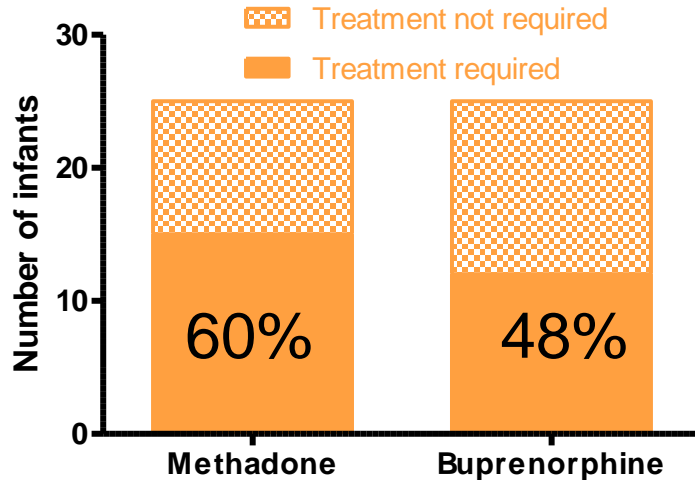




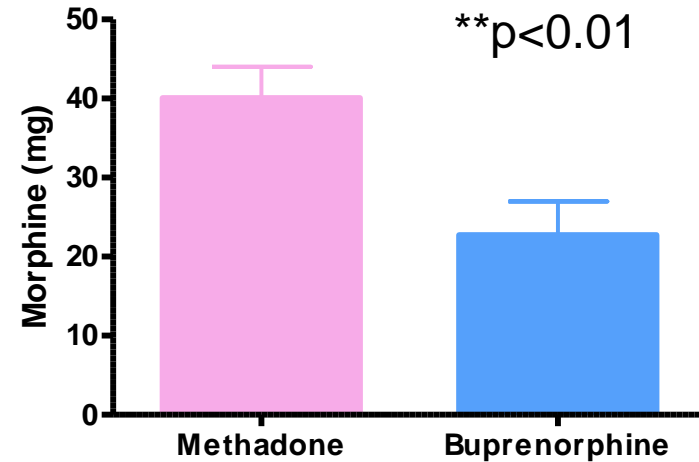
# NAS treatment

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### Number of Infants Requiring Pharmacological Treatment



### Treated Infants: Total Morphine Received Over 4 Week Postnatal Period (mean±SEM)





# Conclusions

- Buprenorphine at least as safe and effective as methadone to be used during pregnancy:
  - Minimising maternal withdrawal
  - Minimising NAS
- Results may help to extend choices and improve treatments available to opioid maintained women during pregnancy, consequently improving health outcomes for the mother and most importantly the infant.



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Patients + Patience  
=  
Substance using population



# Patients

- Longitudinal clinical population
- People dealing with real, present and serious health circumstances (i.e. stressful)
- Each patient is highly valuable to your research
- They want to know i) you have their interests at heart, and ii) they are making a worth while contribution
  - “Silver service”
  - Be true to your word
  - Provide feedback and/or follow-up

= participation, retention, good quality data....



# Patience

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- Stigmas
  - Feelings of guilt/worry/concern
  - Families SA
  - Poor antenatal care
- Confidentiality/trust/communication/relationship collateral
  - Additional substance use
  - Researcher versus clinician
- Maintenance medication
  - Other medical appointments



# Patience

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- Chaotic lifestyle in general
  - Other children
  - Financial difficulties
    - Housing
    - Food
    - Transport
- Domestic violence or previous sexual abuse
- Mental Health Disorders
- Corrections/Prison
- Personal safety



# Patience

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- Poor compliance with medical care, therefore often less compliant with research requirements
- Further encouragement and assistance required
- Challenging, yet highly rewarding population, improve health outcomes for mother and child



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# Where to from here

- Divisional Grant
  - Genetic Predictors of Infant Withdrawal in Methadone Exposed Infants
- Other projects
  - The relationship between infant sleep patterns and postnatal depression
  - Group Cognitive Behavioural Therapy for postnatal depression



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# Clinical Research Overview



# Patients, Politics, Practitioners

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# Politics

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- Working in large institutions
- Many concerns that are a higher priority than your research
- Firstly: be “apolitical”...or you may find your research comes to an abrupt halt
- Secondly: have a strategy to *make your research a priority*
  - Media
  - Conferences
  - Guest speakers



# Practitioners

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- The bottom line: It's clinical research so you need clinicians
- Their patients = their research
- Different training & experience
- May expect certain results, interpret and report results differently
- Discuss the research and anticipated papers as early as possible.



# Collaboration

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- Who?
- Be multidisciplinary –don't go it alone.
- Team expertise.
- Access to participant population.
- How to approach potential collaborators.



# Funding

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- Where from?
- Drug company
  - Potential implications?
- NHMRC
- ARC
- Divisional
- Other
  - Children's Research Foundation



# Ethical considerations

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- Who?
  - University
  - Government
  - Hospital
- Therapeutic goods Administration
  - Implications for administering a drug intervention
  - Participant population and implications



# Overview

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- Humble beginnings and back ground
- PhD Project Research Outcomes
- Clinical Research
- Research Fellow
- Where to from now?