ARE WE OVER-TREATING INFANTS WITH NEONATAL OPIOID WITHDRAWAL?

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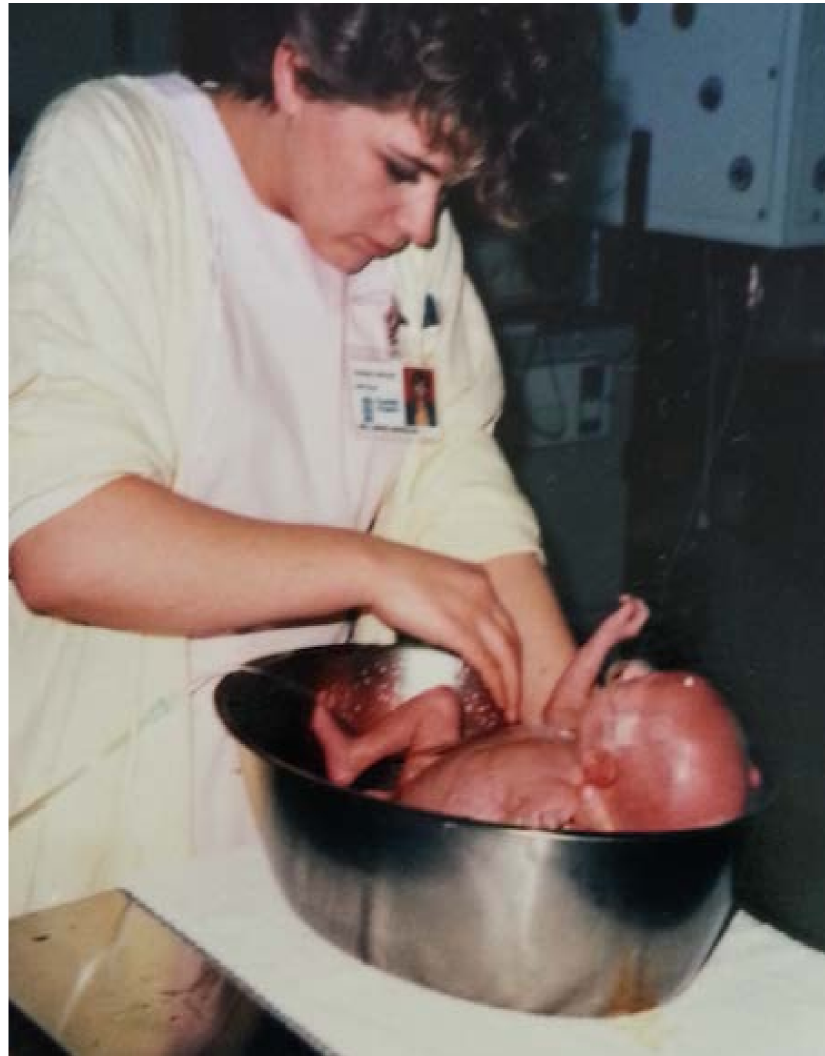
Healthy mothers and healthy babies: Working together to improve perinatal outcomes
PSBC 3rd Biennial Conference, Vancouver, BC, March 1-2, 2018

I do not have any conflicts of interest to disclose.

Learning objectives

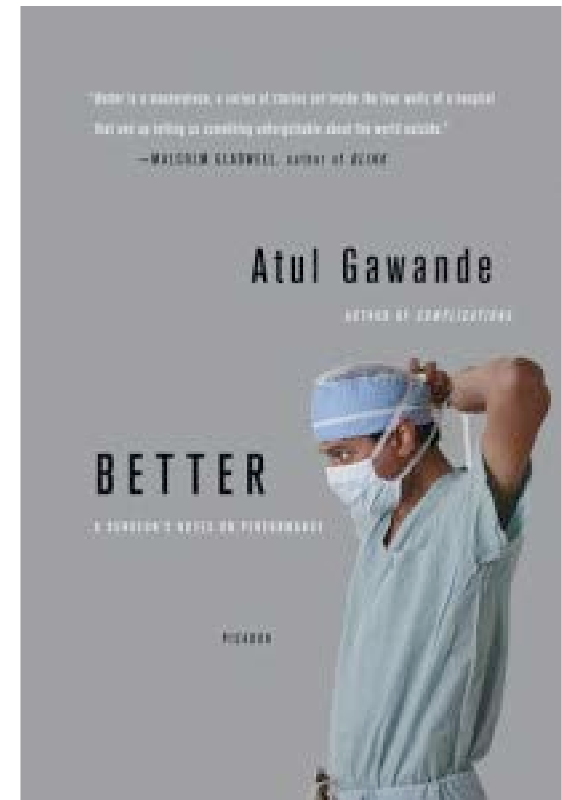
- Discuss the history of the development of current clinical practices related to the care of infants with neonatal opioid withdrawal
- Apply an ecological model to examine factors that influence current clinical practices
- Discuss emerging models of evidence-informed care related to supporting infants experiencing withdrawal, their mothers and families

Why I am interested..



"An avalanche of unnecessary medical care" – Atul Gawande

- Waste accounts for 30% of health care spending (Institute of Medicine)
- Greater fear of not doing enough, rather than doing too much
- Hidden harm – unnecessary care can crowd out necessary care



Gawande, A. (2015). Overkill. The *New Yorker, May 11 issue.*

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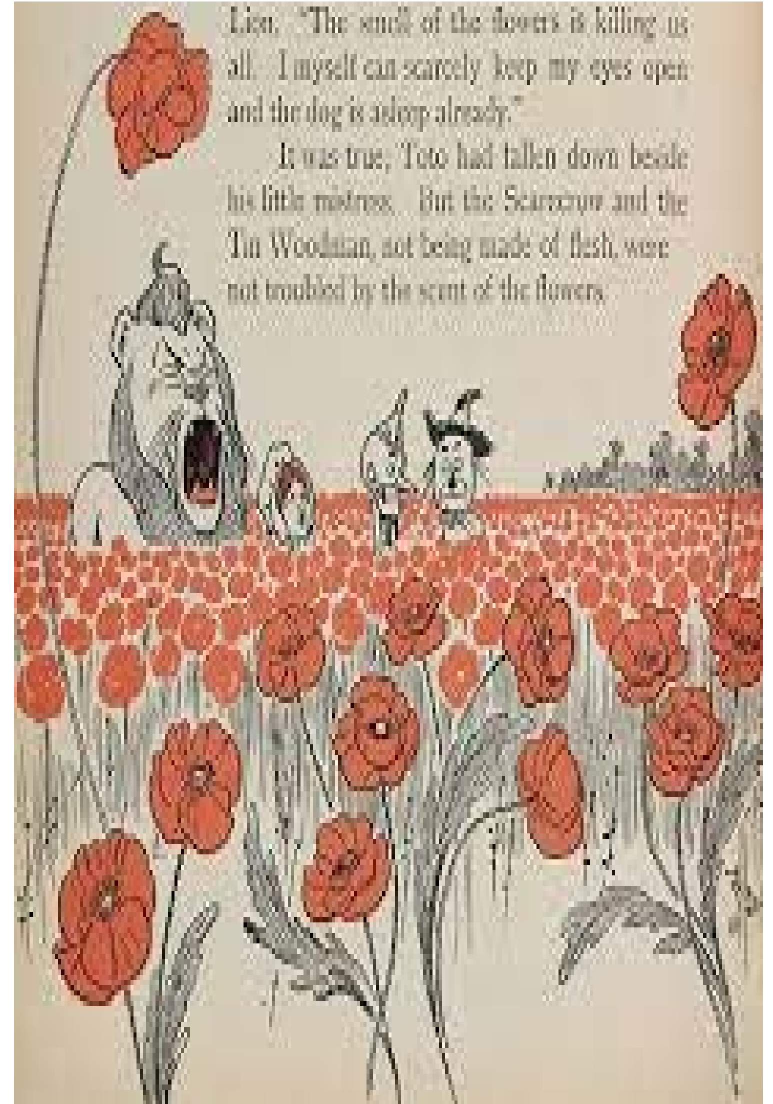
BARCELONA 2016 – 20th to 22nd September 2016

Following successful conferences in Dartmouth in 2013, the University of Oxford in 2014 and the NIH in 2015, we are pleased to announce the dates for the 2016 international Preventing Overdiagnosis conference, to be held in Barcelona. Abstracts accepted in English & Spanish - until April 15. Innovations to the conference program Incorporating feedback from many participants from … Read More....

Concerns..

- Medicalization of illness – “disease mongering”
- Iatrogenicity of health care
- Trend toward overtreatment in high income countries
- Complex relationship between overdiagnosis and overtreatment
- Risk culture

Moynihan, R., Henry, D. & Moons, K. (2014). Using evidence to combat overdiagnosis and overtreatment: Evaluating treatments, tests, and disease definitions in the time of too much. *PLoS Medicine, 11*(7), e1001655.



Lion. "The smell of the flowers is killing us all. I myself can scarcely keep my eyes open and the dog is asleep already."

It was true, Toto had fallen down beside his little mistress. But the Scarecrow and the Tin Woodman, not being made of flesh, were not troubled by the scent of the flowers.

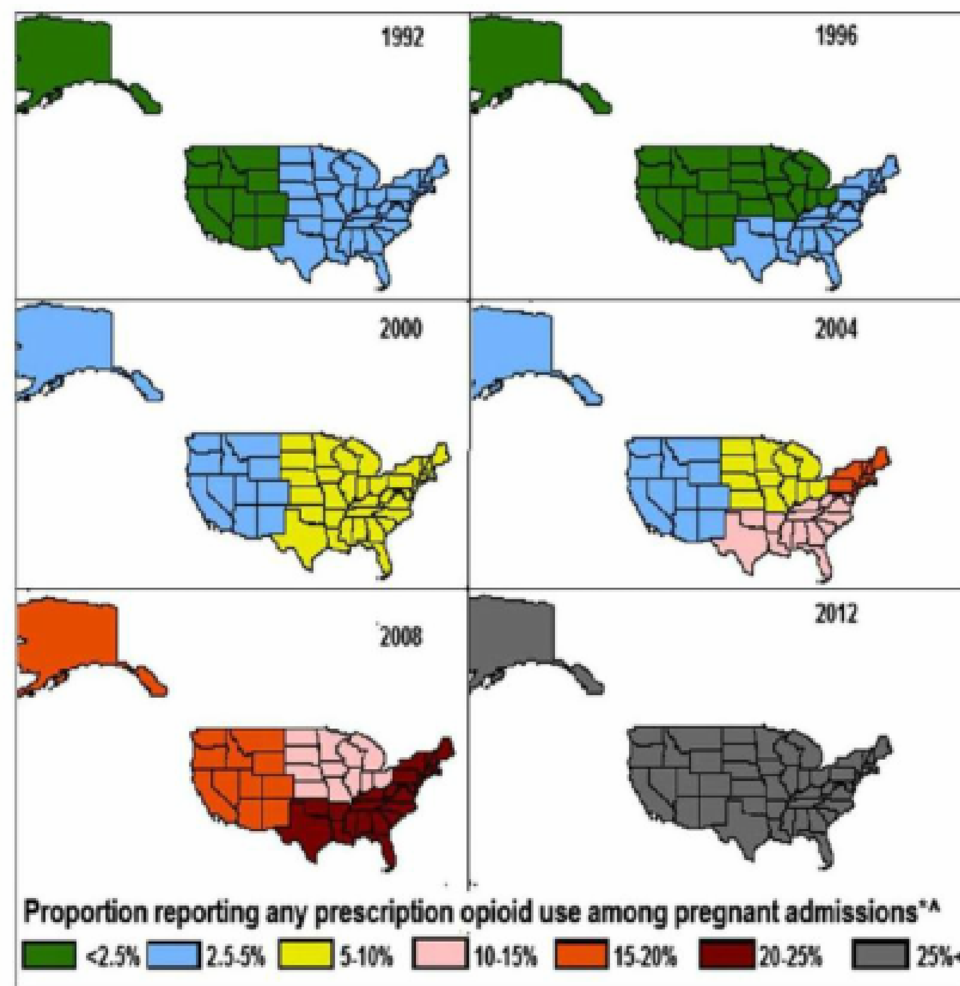
(REUTERS)

"The restlessness increased; it began to yawn and sneeze. Its face became pinched and its color poor. It drew up its legs as if in cramps, and cried out as if in pain. Its pupils became widely dilated. The chin was in a constant tremor reminding the observer of an adult in a chill. Finally diarrhea began, and the infant showed signs of collapse, with general convulsions"

(Laase, 1919, New York Bureau of Social Hygiene)

National Data: Prescription Opioids During Pregnancy

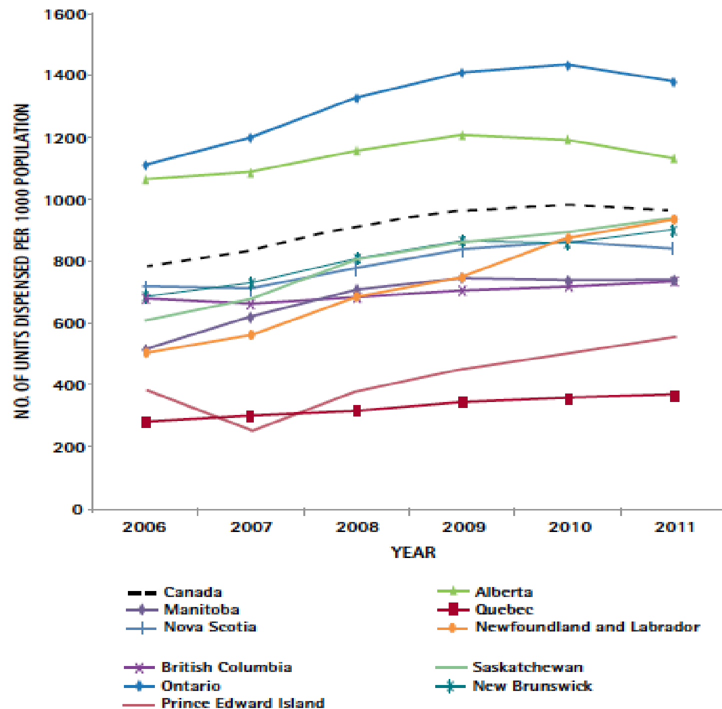
Proportion Reporting Any Prescription Opioid Use Among Pregnant Admissions



Martin, C.E., et al., Recent trends in treatment admissions for prescription opioid abuse during pregnancy. Journal of Substance Abuse Treatment (2014), http://dx.doi.org/10.1016/j.sat.2014.07.007

VON Vermont Oxford NETWORK

Canadian trends..



- Substantial variation in prescribing across provinces
- Use of high dose opioids wide spread in Canada

Historical development in Europe

Historical development in North America

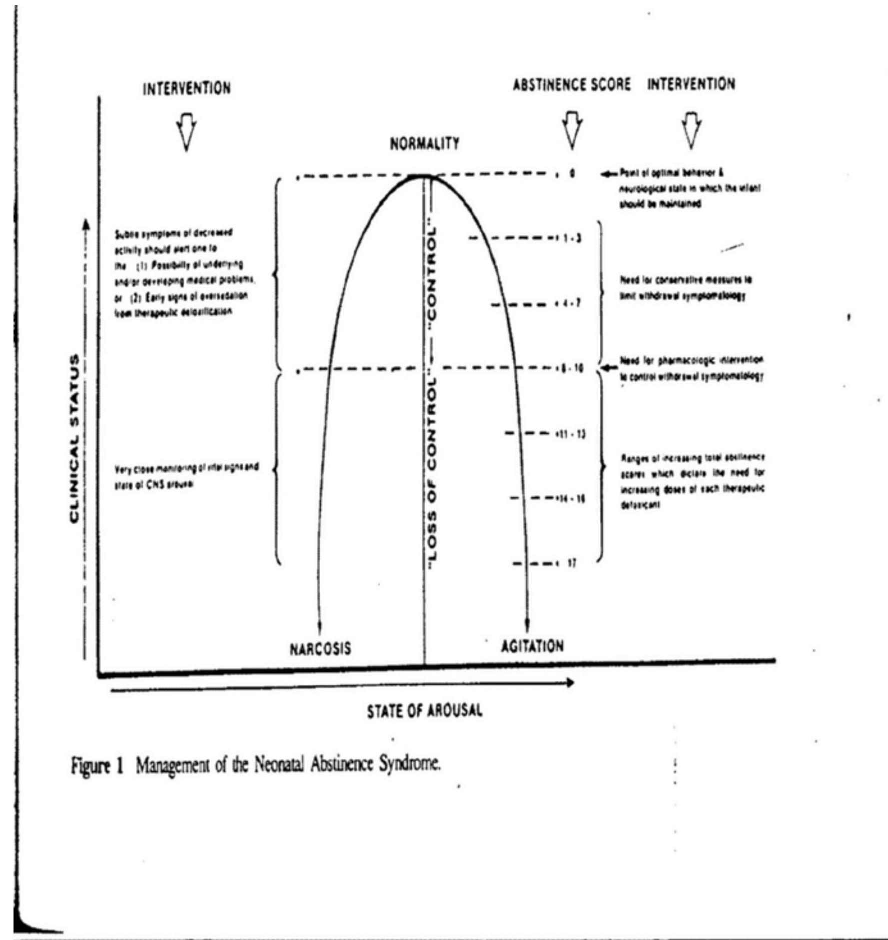
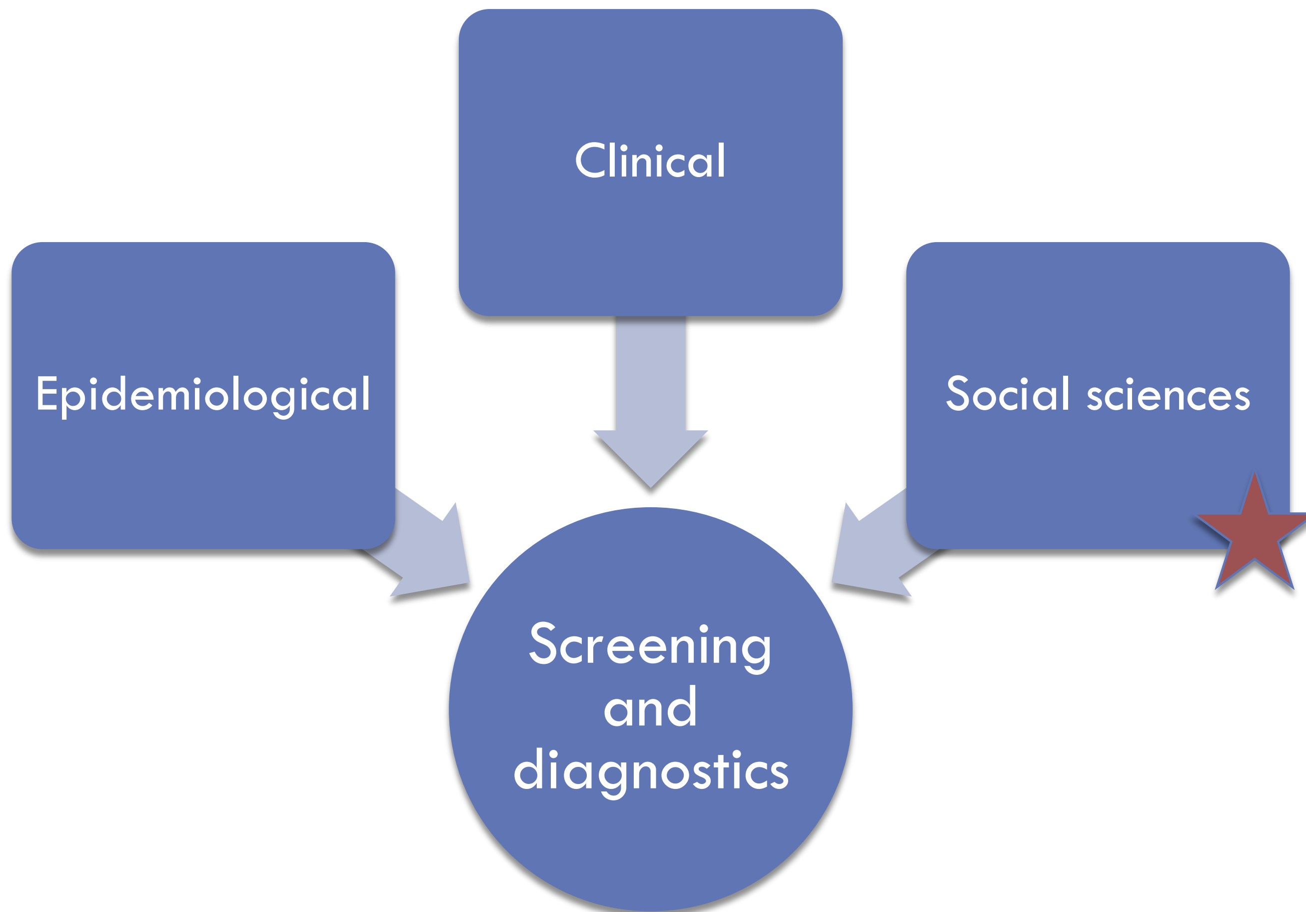


Figure 1 Management of the Neonatal Abstinence Syndrome.

Proposition

- In the past 40 years in health care we have moved from undertreatment to overtreatment
- Our current model of NOW care, including the established threshold for pharmacological treatment, contributes to overtreatment and increased risk of harm

The evidence base



Ecological/systems approach

Macrosystem:
Society

Exosystem:
Institution or organization

Mesosystem:
Unit and team

Microsystem:
Infant and family

Microsystem: Infant and family

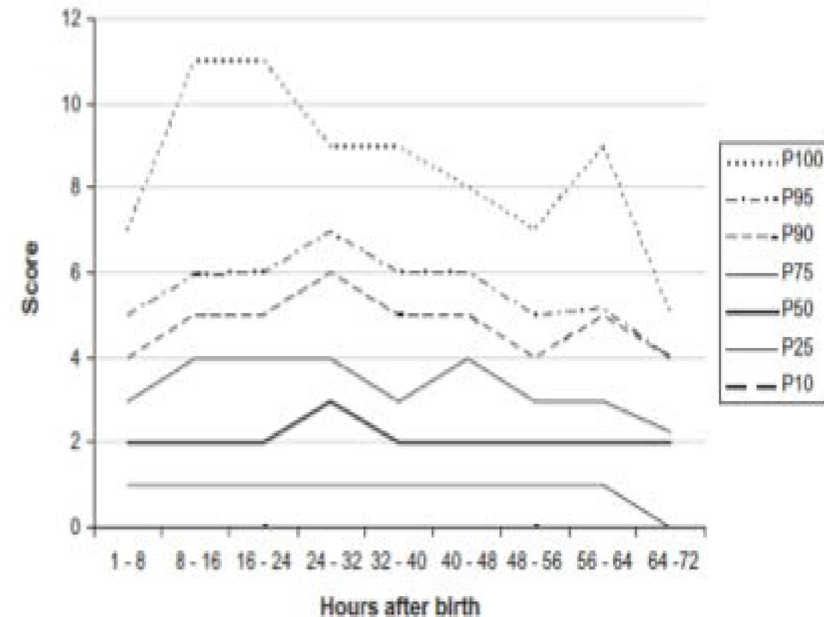
- Shift in substance exposure patterns over the years – term of NAS applied to many substances
- Not the population that health care providers are most interested in providing care to – low tech, high tension
- Are infants with NOW seen as “appropriate” patients for the NICU?
- Phenomenon of motivated reasoning – emotional stake, support personal bias
- Confirmation bias – interpret in a way that confirms preexisting hypotheses

Getting to $\geq$8:

- Think about a new infant (ie. transition, breastfeeding, birth stress, C/S, breastfeeding):
  - Mild tremors disturbed – 1
  - Sneezing – 1
  - Nasal stuffiness - 1
  - Poor feeding – 2
  - Mottling – 1
  - Sleeping – less than one hour after a feed – 3

From 7 to 8: A short distance

- A score of 7 on day 2 of life corresponds with the 95th percentile for non-exposed infants
- A score of ≥8 is highly suggestive of NOW
- Key limitation – significant intra-observer variability



Zimmerman-Bauer, U., Notzli, U., Rentsch, K. & Bucher, H. (2010). Finnegan neonatal abstinence scoring system: Normal values for first three days and weeks in 5-6 in non-addicted infants. *Addiction,105*, 524-528.

Kraft, W., Stover, M. & Davis, J. (2016). Neonatal abstinence syndrome: Pharmacologic strategies for the mother and infant. *Seminars in Perinatology, 40*, 203-212.

What is a clinically significant threshold?

- Minimal important difference - the smallest amount of benefit that patients can recognize and value - “a bit better”
- Historically focused on benefits and has not taken into account associated costs, risks, adverse events and other harms
- Often based on expert opinion, in the absence of substantial clinical data
- Assessment of benefits and harms required as science evolves and demographics change

Jaeschke, R., Singer, J. & Guyatt, G. (1989). Measurement of health status: Ascertaining the minimal clinically important difference. *Controlled Clinical Trials, 10*, 407-415.

AAP position statement (Hudak, 2012)

Infants with confirmed drug exposure who are unaffected or demonstrating *minimal* signs of withdrawal do not require pharmacologic therapy	How do we define and describe "minimal signs"? Is this the same as <8?
Caution should be exercised before instituting pharmacologic therapy that could lengthen the duration of hospitalization and interfere with maternal-infant bonding	What is implied by exercising caution?
The optimal threshold score for the institution of pharmacologic therapy by using any of the published abstinence assessment instruments *is unknown*	Research still needed to establish if and what an optimal threshold score is

Threshold language across guidelines

- … “should be considered”
- “guided by clinical judgment” …
- “may be indicated”

- How does your unit/team take up threshold language/recommendations?

Mesosystem: Unit and team

- Physical environment
- Human factors
- Care model, staffing model, workload, collaboration
- Shared values and unit culture
- Consistency in and skill of caregivers
- Pragmatic clinical guideline framework for practice, including ongoing training with scoring tool use, best conditions for assessment
- Approach to integrating parents

Experiences of providers in NICU

- "*Not what we signed up for*", "*Depo should come with them all*", distress, frustration, felt attacked and blamed by parents, hard time ethically (Maguire et al., 2012)
- Frustration, don't want to speak to parents, "*We do judge them. We don't mean to, but you just do*"(Fraser et al., 2007)
- Frustrating, disheartening, feelings of blame for parents, difficulty feeling empathy, "*I had no idea it was such a big problem*" (Murphy-Oikonen et al., 2010)

Attitudes: Three components – "ABC's"

- **Affective** = feelings, emotional reactions
- **Behavioral** = how you act
- **Cognitive** = beliefs, facts, information

- Impacted by external factors such as culture, religion, education, past experience, media

THE BLOG

A Baby Was Born a 'Junkie'

03/08/2016 10:04 am ET | Updated Mar 08, 2016

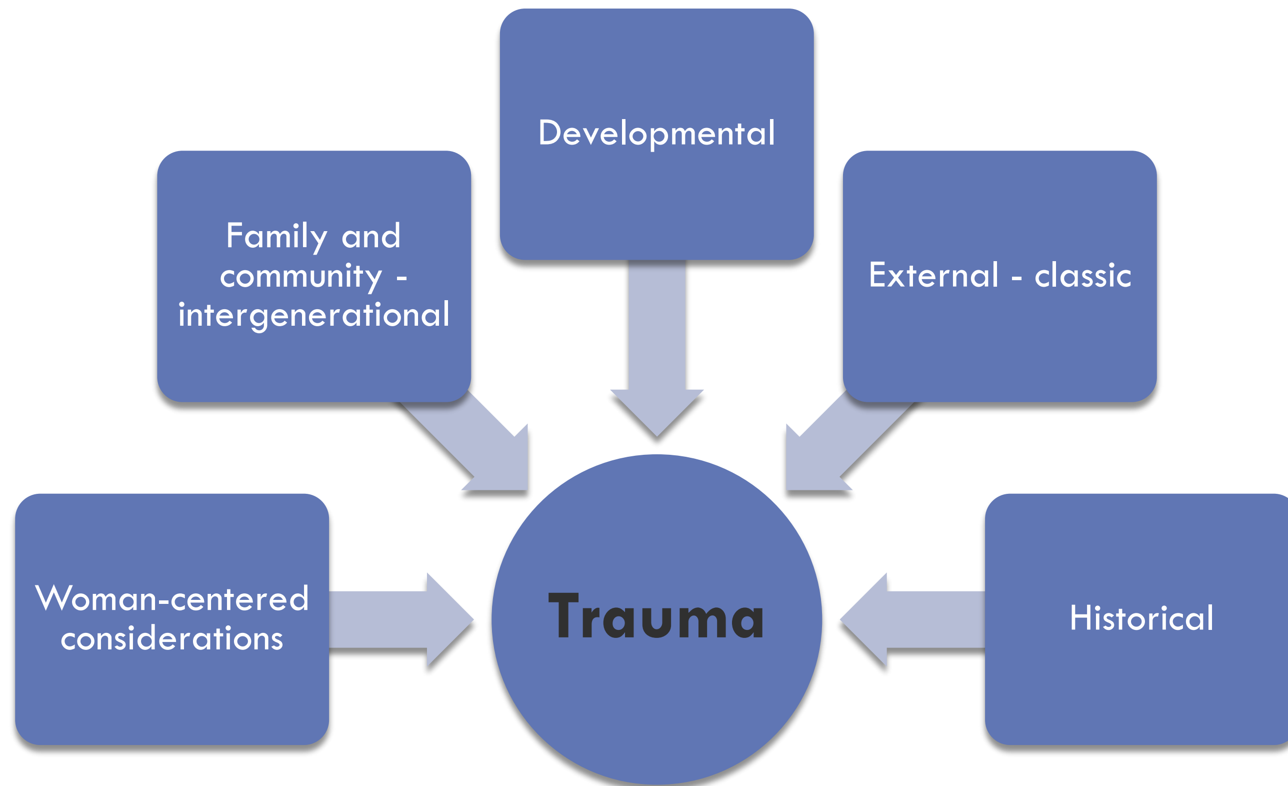
CHARLIE F.

DEC. 9, 2005

ADDICT

Some Addicts Never Had a Chance to "Just Say No."

Connected bodies of trauma knowledge



Exosystem: Institution or organization

- Administrative/leadership support for model of care
- Culture/shared beliefs that emphasizes performance standards
- Approach to risk

Dodek, P., Cahill, N. & Heyland, D. (2010). The relationship between organizational culture and implementation of clinical practice guidelines: A narrative review. *Journal of Parenteral and Enteral Nutrition, 34*(6), 669-674

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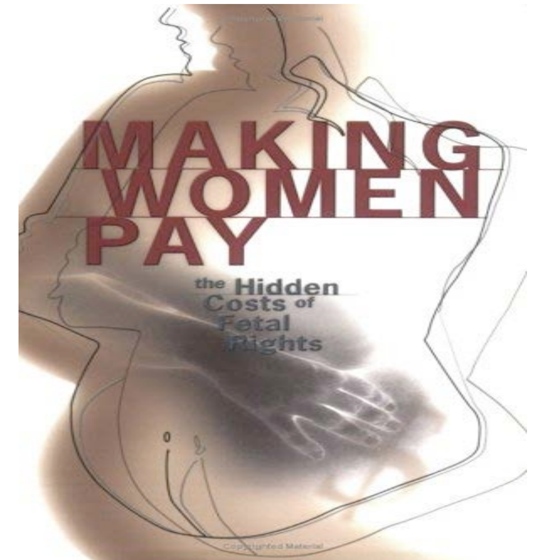
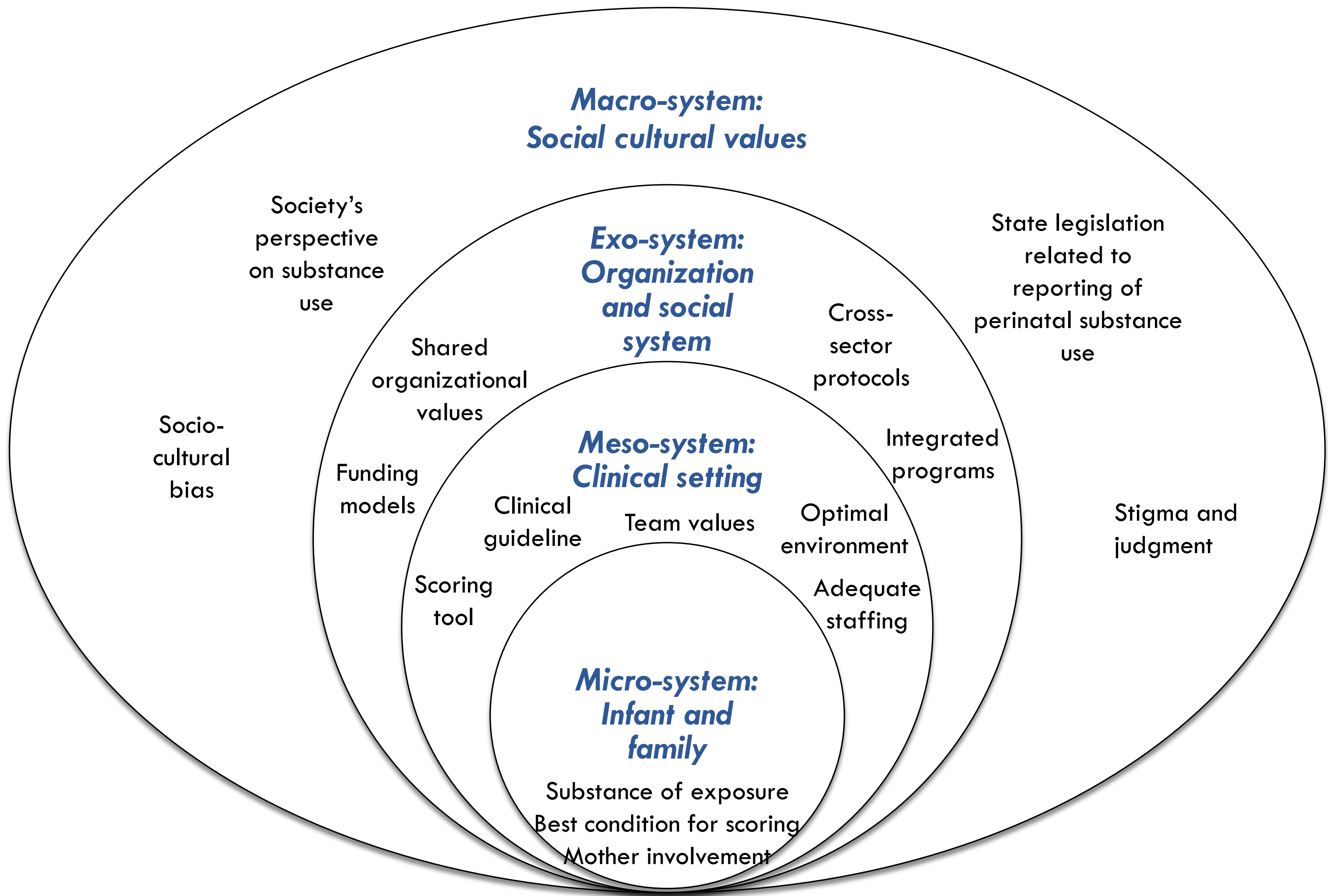
Macrosystem: Society

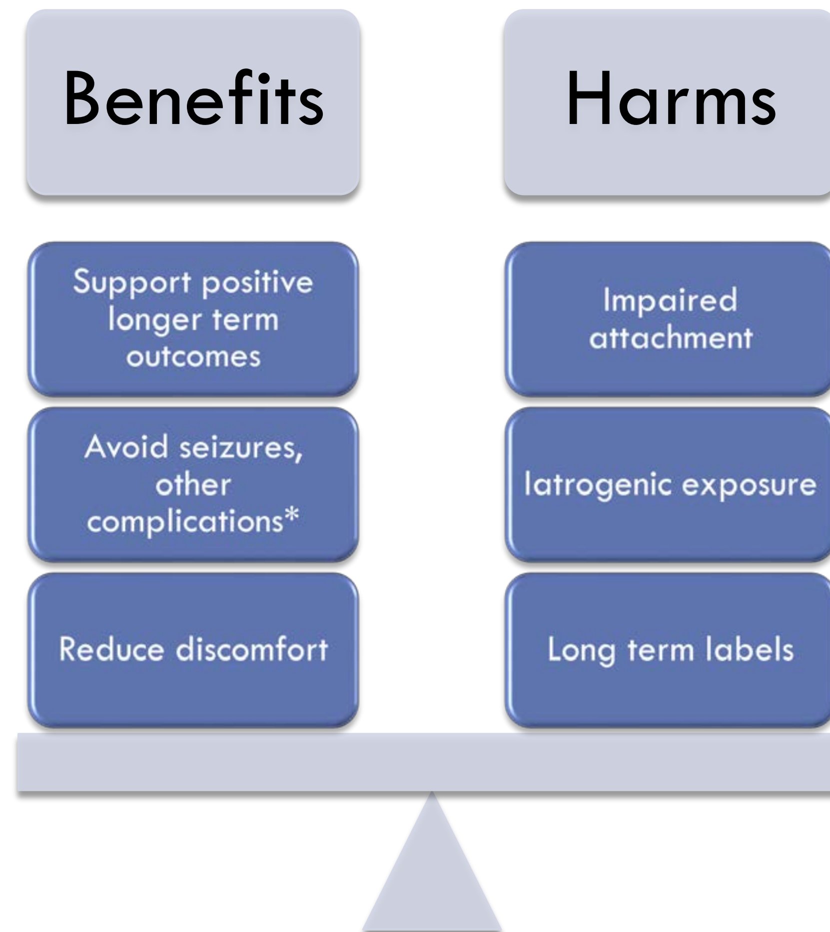
- Societal positioning and valuing/devaluing of marginalized populations
- Approaches to drug and alcohol use
- Usually placing rights of infant ahead of mother
- Widening social inequities
- Legal parameters



Flavin, J. & Paltrow, L. (2010). Punishing pregnant drug-using women: Defying law, medicine, and common sense. *Journal of Addictive Diseases, 29*(2), 231-244.


Macro-system:
Social cultural values
Society's perspective on substance use
Socio-cultural bias
State legislation related to reporting of perinatal substance use
Stigma and judgment
Exo-system:
Organization and social system
Shared organizational values
Funding models
Cross-sector protocols
Integrated programs
Meso-system:
Clinical setting
Clinical guideline
Team values
Optimal environment
Scoring tool
Adequate staffing
Micro-system:
Infant and family
Substance of exposure
Best condition for scoring
Mother involvement

Weighing benefits and harms of NAS care above the threshold (can depend on your perspective)



This should not be an NICU issue!

- **Babies not critically ill or medically complex**
  - Don't need full CR monitoring
- **Most babies born outside facilities with L3 NICUs**
- **NICU beds cost a lot**
- **In most NICU settings:**
  - Excessive stimulation present
  - Barriers to skin-to-skin and breastfeeding
  - Interference with mother-infant bonding
  - Rooming-in difficult

“Examples of ”right sizing” our practices

- Provide optimal care to ensure we are assessing withdrawal, not other things
  - Mother-baby dyad commitment
  - Non-pharmacologic interventions
  - Adequate human resources
  - Appropriate physical environment
- Skilled and consistent application of assessment tools
- Re-examine use of automatic/hard threshold or cut off practices

Thank You…

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