

Co-morbid Mental Illness & Substance Abuse Challenges to Treatment

Trecia Wouldes, PhD

Department of Psychological Medicine



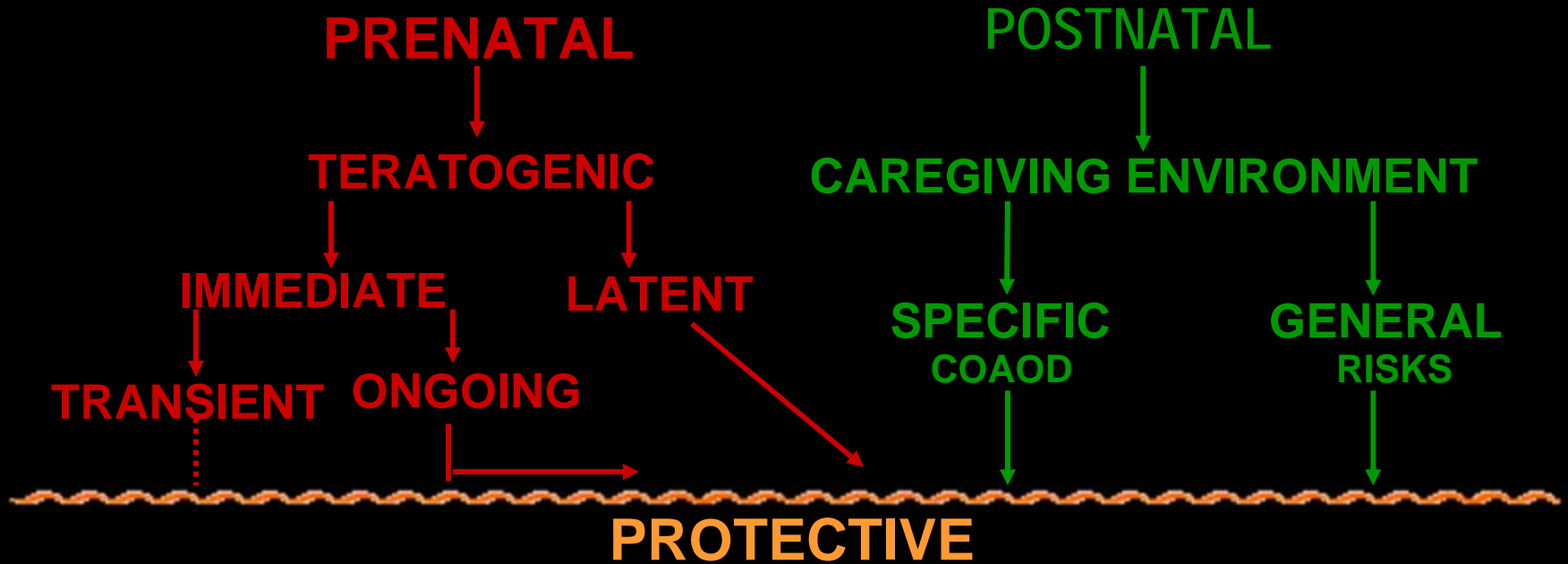
Brown Research
Center for the Study of
Children at Risk



Outline

- Extent of co-morbidity of Mental Illness & Substance Abuse in NZ Women
 - Methadone
 - Methamphetamine
- What can the health professional do?
 - Educate
 - Screen
 - Treatment

Maternal Drug Use During Pregnancy & Child Outcome



DEVELOPMENT

What is the extent of co-morbid
psychopathology and
substance abuse in NZ women?

Methadone Maintenance



- Blocks the effects of other opiates
- Longer pharmacological effect
 - Heroin 2 to 4 hours
 - MMT 24 to 36 hours
- Can be taken orally
 - Decreased risk of HIV & Hep C
- Cost effective
 - Approximate cost \$13.00/day
 - Cost Benefit Ratio 4:1
 - For every \$ spent on MMT save \$4.00 on drug related crime

Parental Drug Use - METHADONE

DRUG USE	MOTHERS		FATHERS	
	Methadone <i>N</i> = 30	Comparison <i>N</i> = 40	Methadone <i>N</i> = 21	Comparison <i>N</i> = 31
Mean Age Started Using Drugs	13.79	13.76	12.76	14.87
Mothers Mean Dose of MMT at birth	63.84			
% Fathers receiving MMT			71.4	
% Smoked Cigarettes	89.7	52.4***	71.4	29.3***
% Ever used any of these drugs				
Alcohol	90.6	78.6*	100.0	70.7*
Marijuana	96.9	42.9***	75.0	36.6***
Barbiturates	65.5	0.0***	70.7	4.9***
Solvents/Inhalants	13.8	0.0*	25.0	0.0**
Hallucinogens	69.0	7.1***	71.4	14.6***
Benzodiazepines	75.9	0.0***	57.1	23.2***
Antidepressants	69.0	2.4***	50.0	2.4***
Antipsychotics	17.2	0.0*	10.7	0.0
Amphetamines	79.5	7.10***	77.3	12.2***
Cocaine	22.9	0.0**	25.0	0.0**

Parental Psychological Well-being - METHADONE

PSYCHOLOGICAL FACTORS	MOTHERS		FATHERS	
	Methadone <i>N</i> = 30	Comparison <i>N</i> = 40	Methadone <i>N</i> = 21	Comparison <i>N</i> = 31
Beck Depression Inventory	15.56	6.13***	12.38	3.25***
DSM-III-R Diagnosis of Depression				
% Major Depression Lifetime	59.40	16.70***		
% Major Depression During Pregnancy	40.60	2.40***		
General Health Questionnaire-28				
Somatic Symptoms	6.50	4.60*	5.76 (3.75)	2.61**
Anxiety-Insomnia	10.20	5.20***	7.57 (3.92)	3.93**
Social Dysfunction	9.40	7.85***	6.10 (3.08)	7.68
Severe Depression	4.70	0.50***	3.43 (5.02)	0.71*
Temperament & Character Inventory				
Novelty Seeking	12.48	9.05**	11.00	8.46**
Harm Avoidance	10.96	8.85*	8.28	7.07
Reward Dependent	8.78	10.50**	7.38	8.68
Self-Directed	13.03	22.48***	16.71	20.32**
Cooperativeness	20.07	22.65***	17.90	19.96

Parental Trauma and/or Negative Life Events

METHADONE

NEGATIVE LIFE EVENTS	<i>MOTHERS</i>		<i>FATHERS</i>	
	Methadone <i>N = 30</i>	Comparison <i>N = 40</i>	Methadone <i>N = 21</i>	Comparison <i>N = 31</i>
% History of Physical or Sexual Abuse	41.9	7.5***	21.4	0.0**
% Attempted Drug Rehab > 3 Times	35.7	0.0***	23.8	0.0***
% Family History of Drug Abuse	17.9	2.4	9.5	3.2
% Arrested/Convicted for:				
Fraud	3.8	0.0	14.3	0.0*
Violent Crime	6.5	0.0	52.4	0.0***
Burglary	16.1	0.0**	38.1	0.0***
Supplying Drugs	9.7	0.0	33.3	0.0***
Driving While Intoxicated	38.7	0.0***	57.1	0.0***
Possession of Illegal Drugs	51.6	0.0***	47.6	0.0***
% Arrested/Convicted for 3 > Criminal Acts	29.9	0.0***	52.4	0.0***

Father, daughter among victims on Mt Cook A4

The New Zealand Herald

Auckland edition

Thursday, December 11, 2003

Monday - Friday: \$1
Bundled subscription: \$7

How Williams killed Coral after night on P

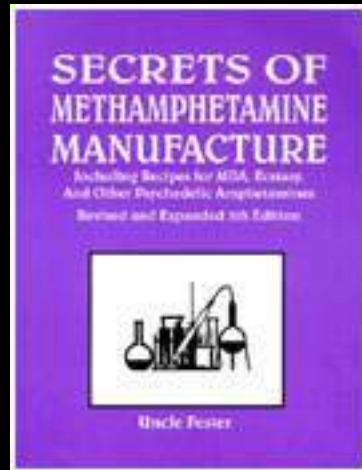
by James Gardiner

Like a ticking bomb, Steve Williams' life seemed destined to reach a ghastly climax.

His notoriously short fuse had got him in trouble so many times that those who knew him were resigned to the fact it was going to get worse.



METHAMPHETAMINE



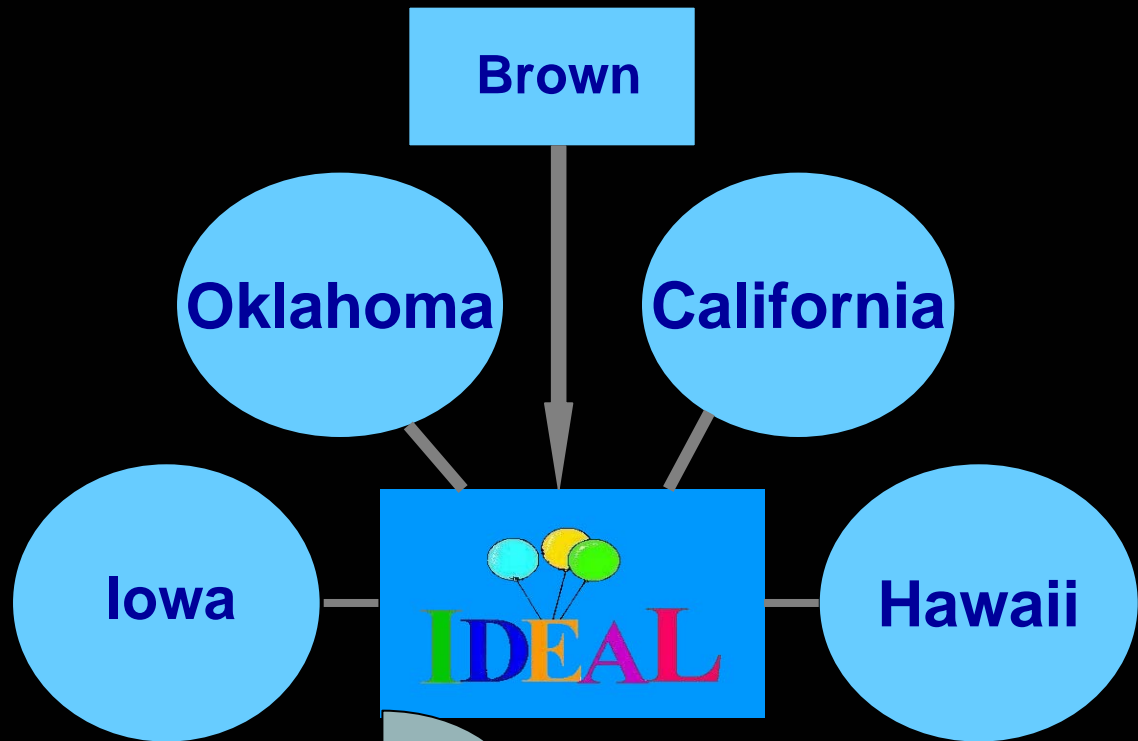
- Powerful stimulant drug
- Odorless crystalline powder
- Color changes with ingredients
- Man-made in labs
- Smoked, snorted, or injected



Infant Development Environment And Lifestyle Study

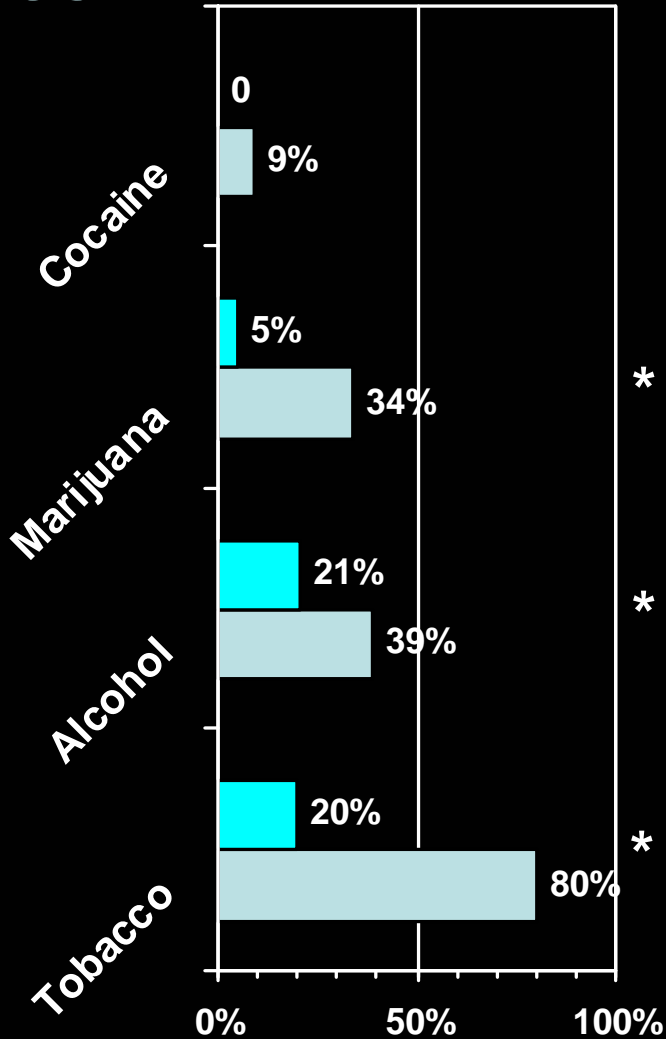


Auckland, NZ

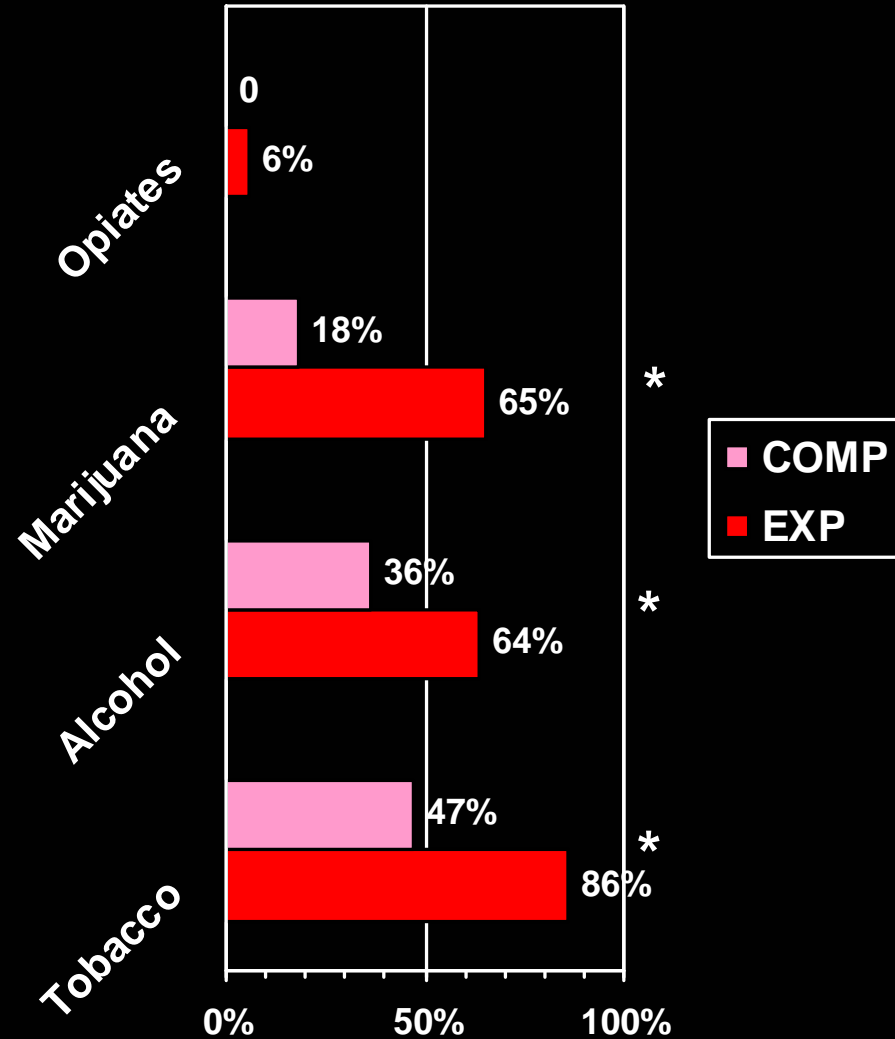


Prevalence of Alcohol and Other Substance Use During Pregnancy: USA and NZ

USA



NZ

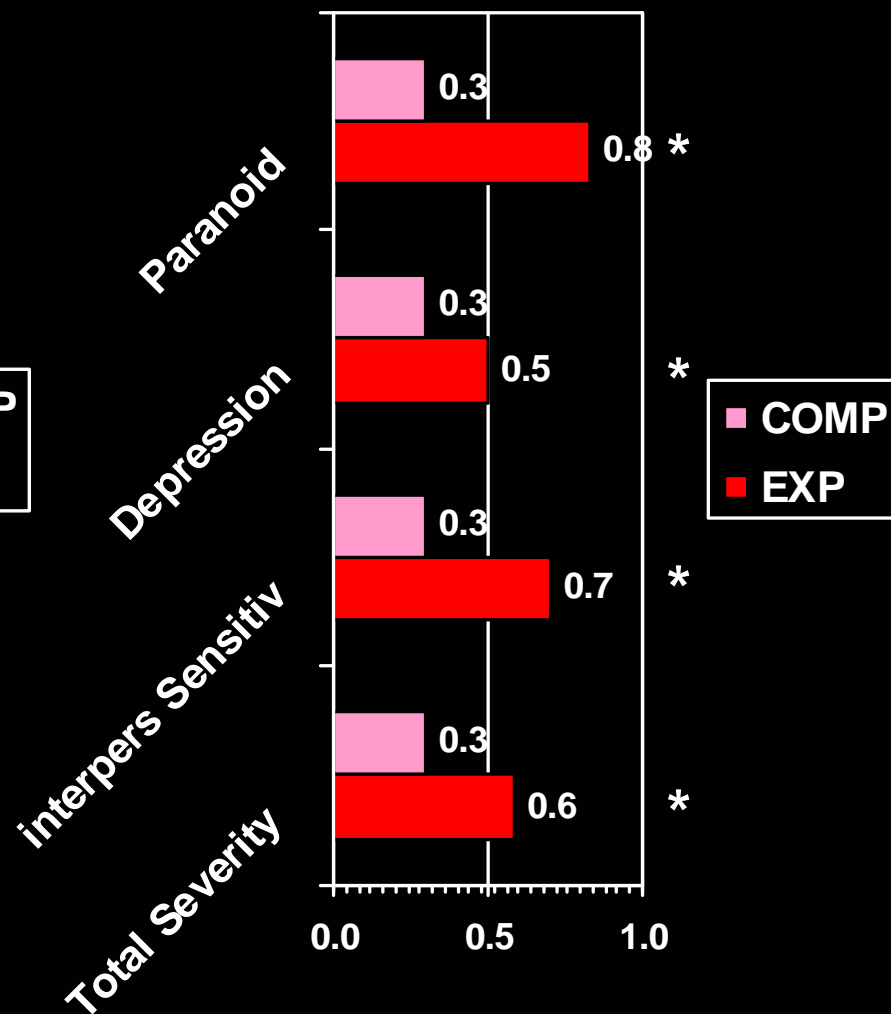
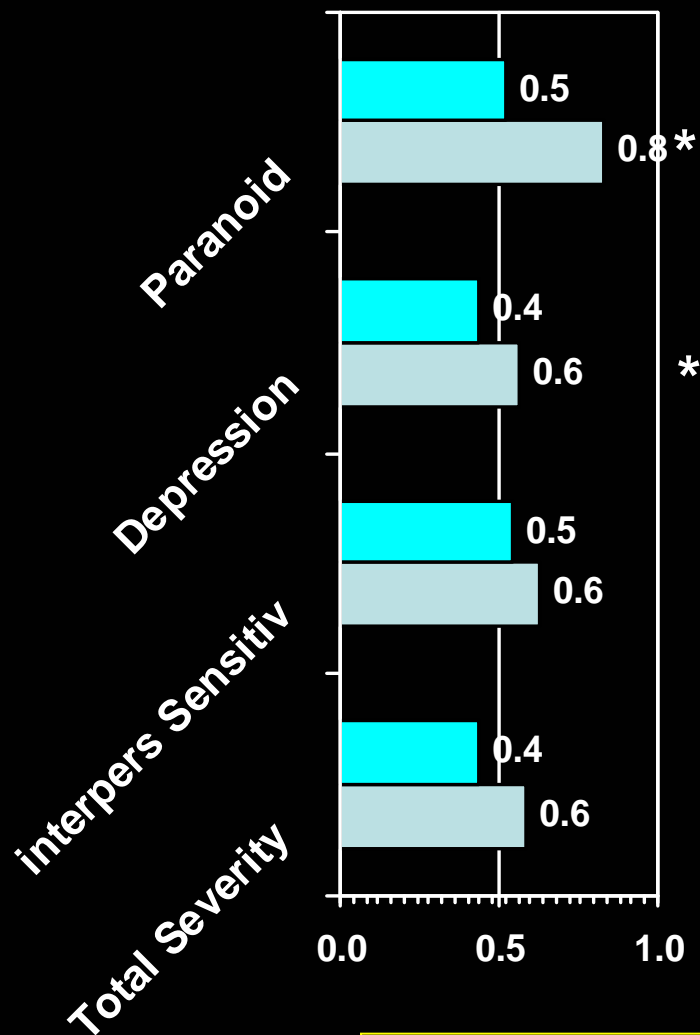


* NZ has higher rates of marijuana, alcohol, tobacco use during pregnancy *

Prevalence of Psychiatric Symptoms- Brief Symptom Inventory: USA and NZ

USA (biological mothers only)

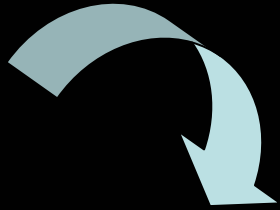
NZ



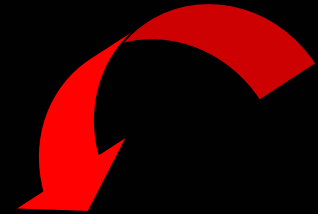
* Similar pattern of psychiatric symptoms in USA & NZ *

Pregnancy and Birth

USA



NZ



- No increase in medical problems in mothers who used MA during pregnancy (e.g. placental abruption)
- No increase in physical damage (e.g., cleft lip) in MA exposed infants

Pregnancy and Birth

USA

NZ

EXP

COMP

EXP

COMP

8%

2% *

No Prenatal Care

2%

0

11.1

14.1 *

of Prenatal Visits

14.7

17.4 *

14.6

9.5 *

Gest. Age at 1st Prenatal Visit

16.1

12.9 *

42.1

34.1 *

Maternal Wt. Gain (lb)

36.7

37.4

23%

39% *

First Born (parity 1)

43%

44%

23%

24% *

Home Health Care

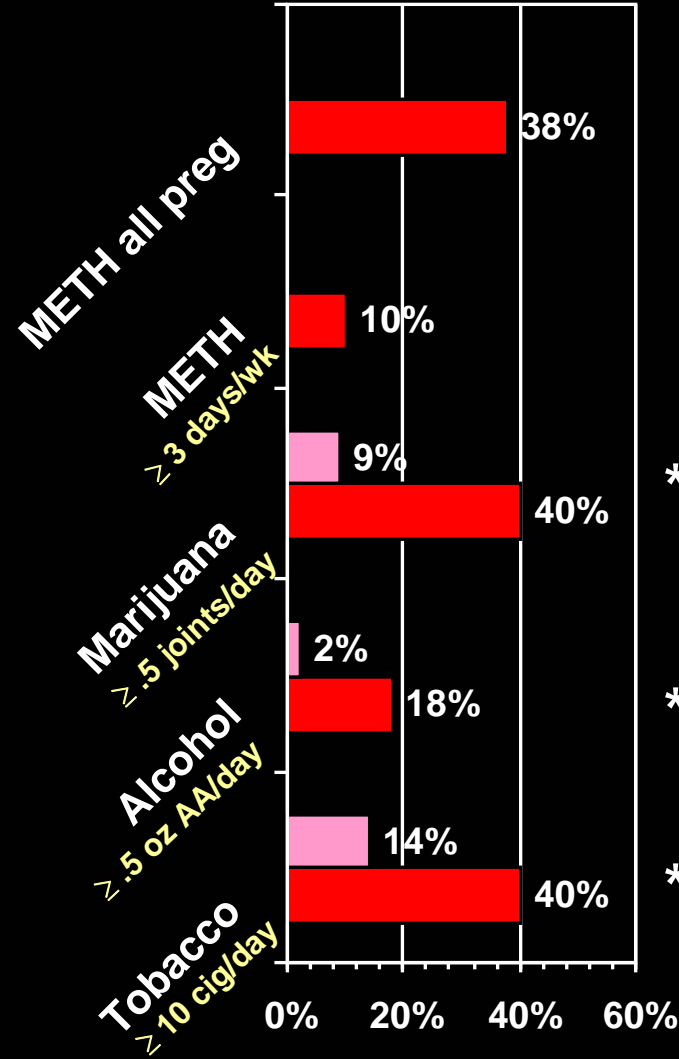
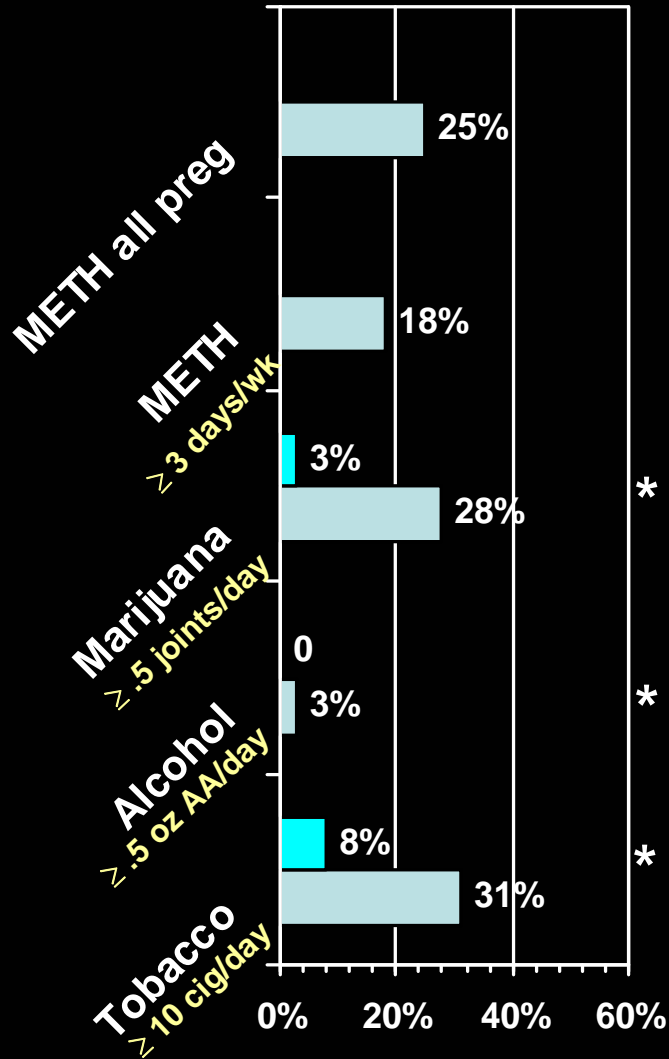
95%

100%

Heavy METH and Other Substance Use During Pregnancy: USA and NZ

USA

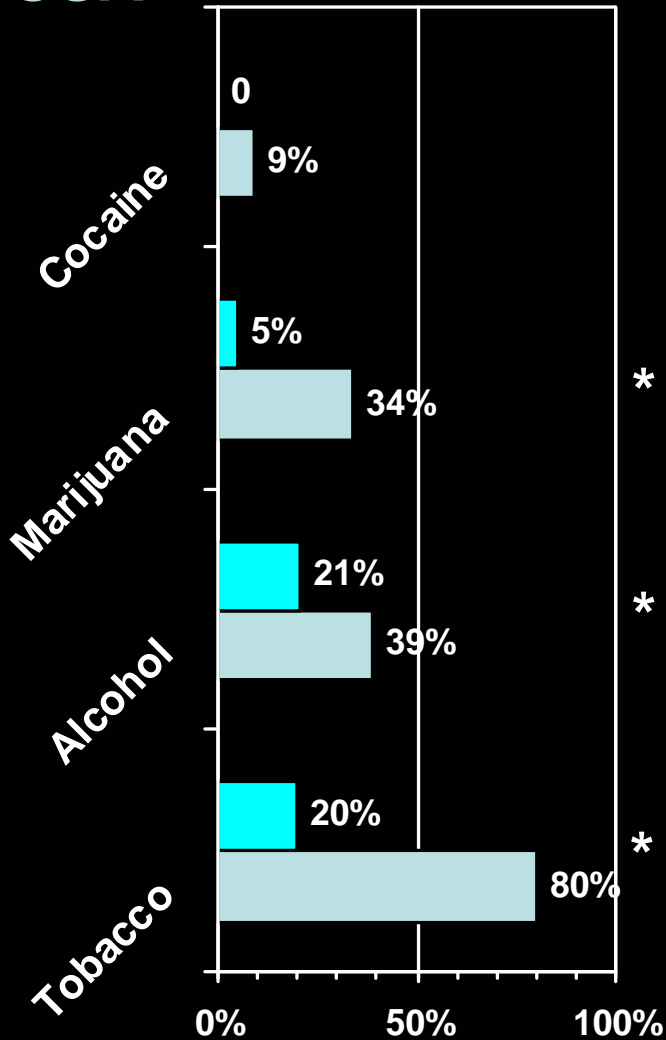
NZ



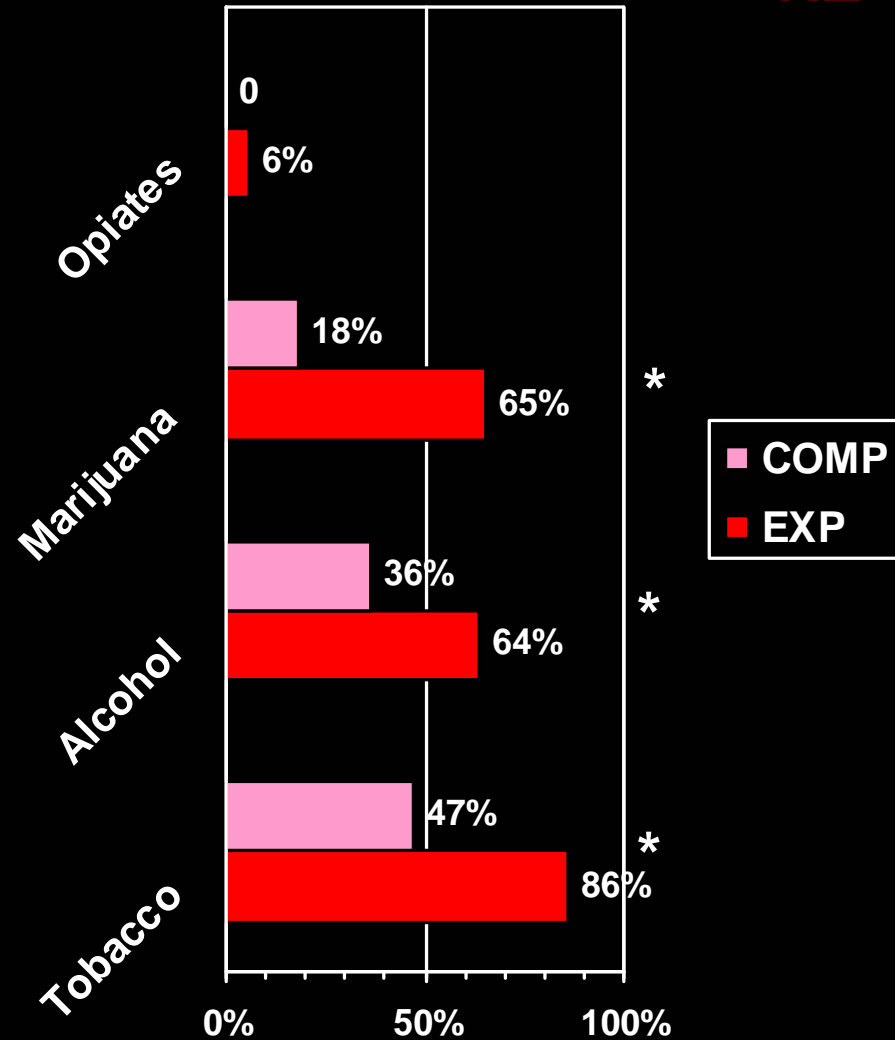
* NZ has higher rates of heavy prenatal use of marijuana, alcohol, tobacco *

Prevalence of Alcohol and Other Substance Use During Pregnancy: USA and NZ

USA



NZ



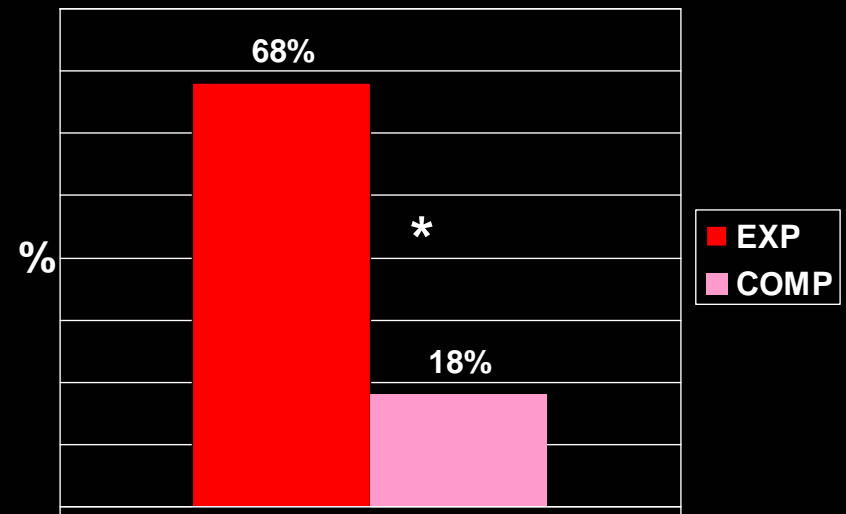
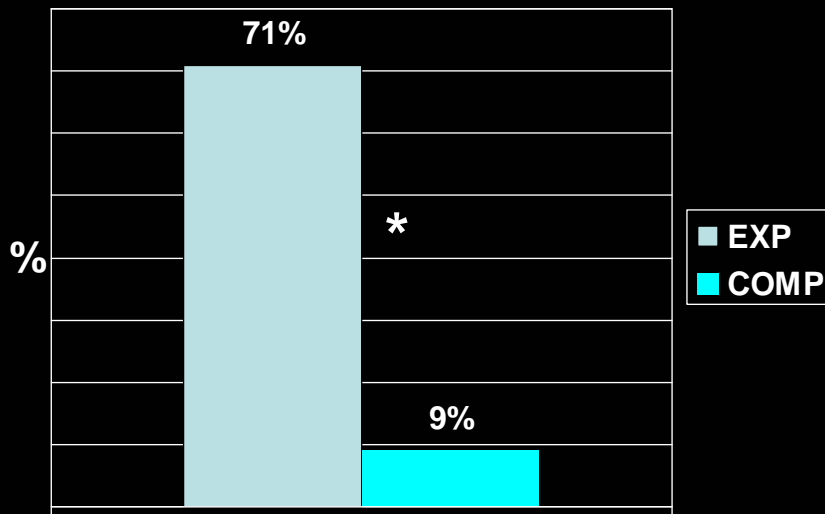
* NZ has higher rates of marijuana, alcohol, tobacco use during pregnancy *



Substance Dependence Disorder- SASSI (Substance Abuse Subtle Screening Inventory)

USA (biological mothers only)

NZ



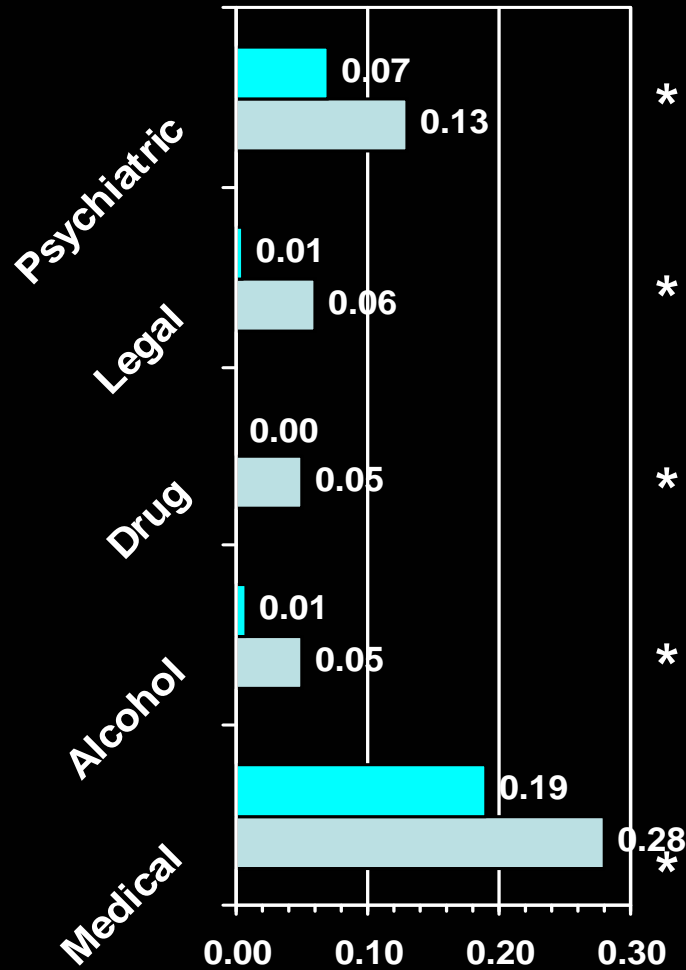
* MA users in both USA & NZ more likely to have a substance use disorder *

(Derauf et al Am J of Drug & Alc Abus 2007)

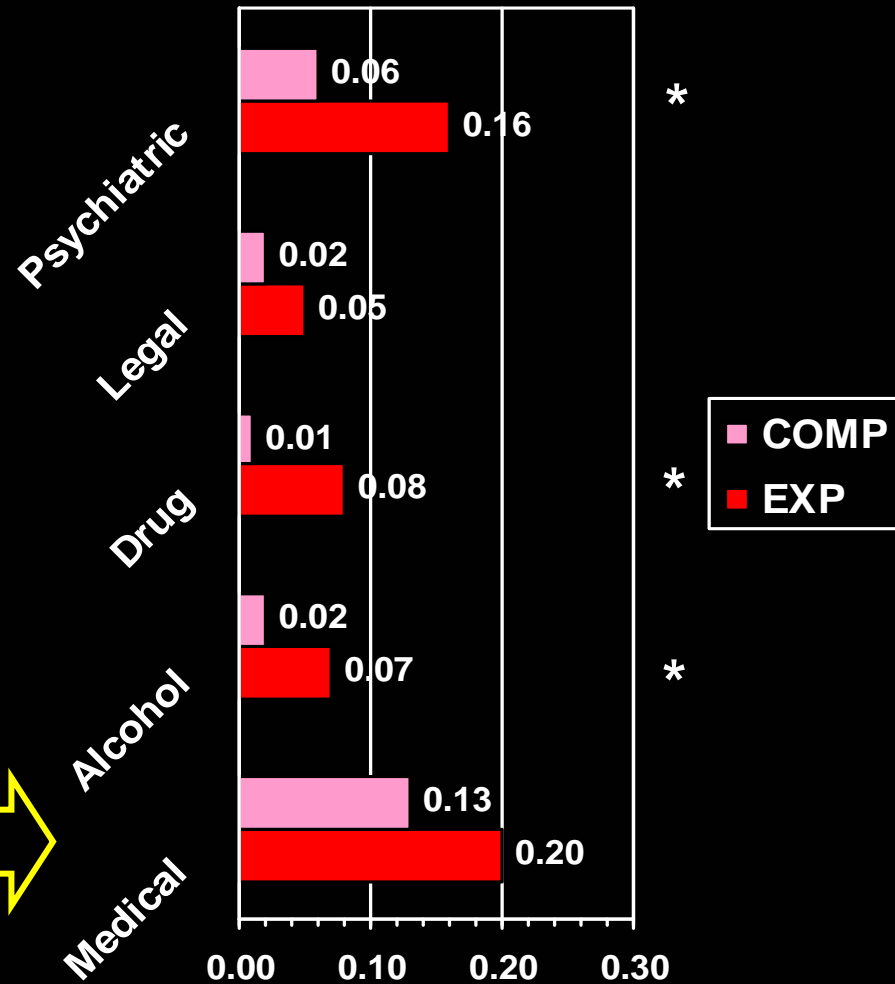
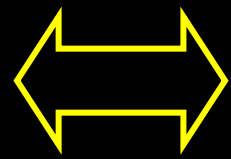
Addiction Severity Index Risk Composites: USA and NZ

USA (biological mothers only)

NZ



COMP
EXP



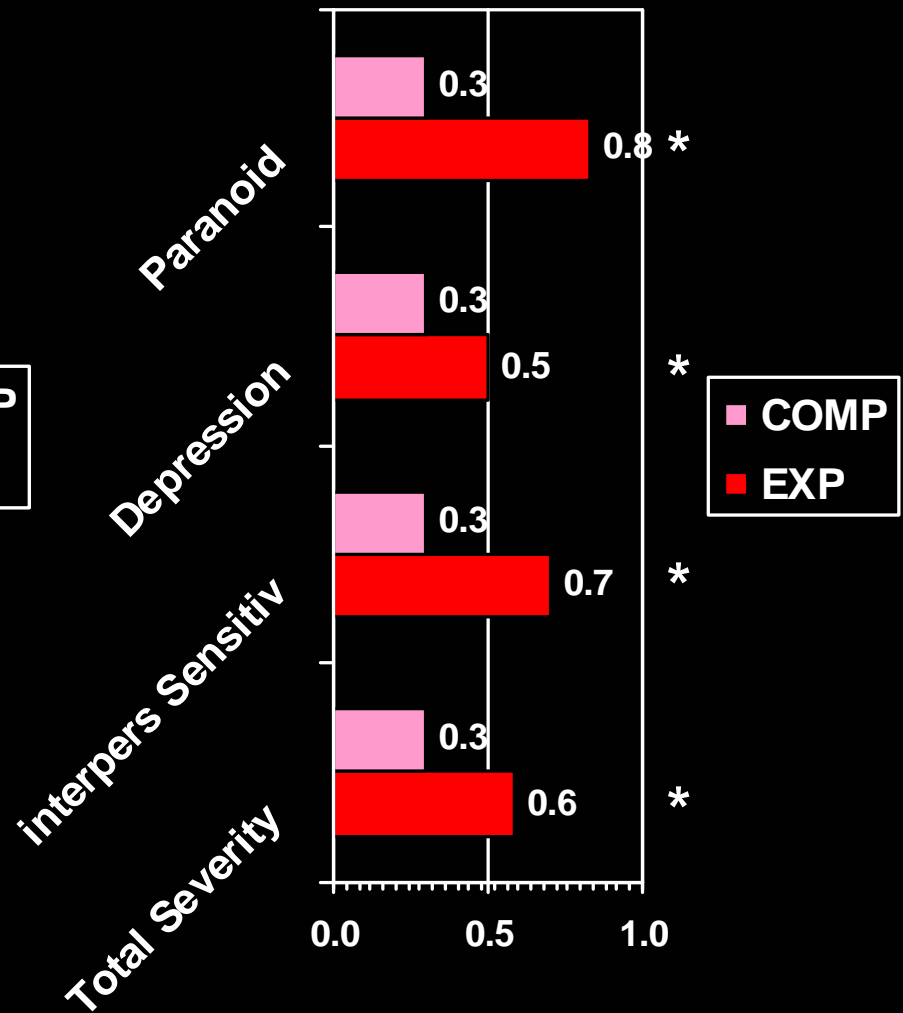
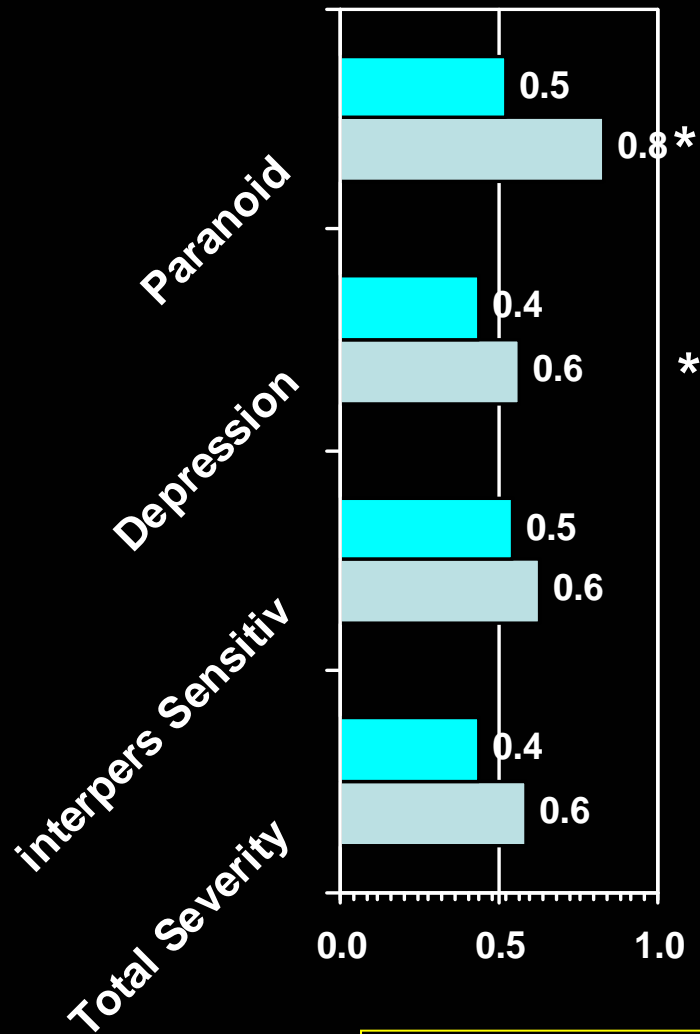
COMP
EXP

* USA has increased medical risk in both groups *

Prevalence of Psychiatric Symptoms- Brief Symptom Inventory: USA and NZ

USA (biological mothers only)

NZ



* Similar pattern of psychiatric symptoms in USA & NZ *

Summary of Maternal Risk Factors

- ↑ Continued alcohol & drug use during pregnancy
- ↑ Maternal Psychopathology
 - ↑ Suicide and/or Overdose
- ↑ Family court & CYFS
- ↑ Continued postnatal alcohol & drug use

What Can the Health
Professional Do?

1. Educate:

- Health care professionals
- Women during antenatal care and/women of childbearing age

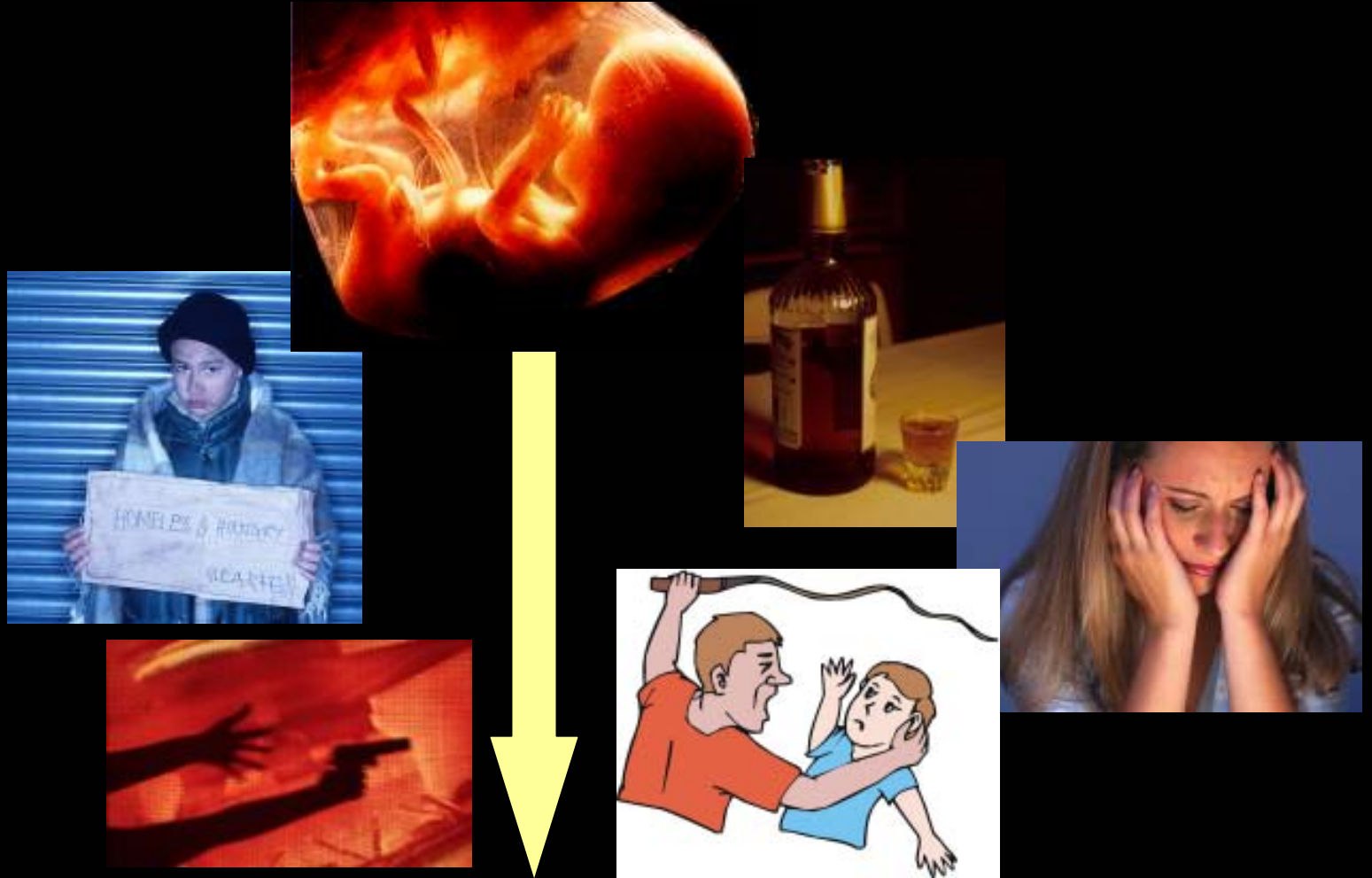
2. Screen:

- Recognize common signs & symptoms of Mental Illness & Substance Abuse

3. Treat:

- Treat the whole-family not the individual
- Treat psychopathology and substance abuse together
 - Early Intervention for children - At risk for learning disabilities, ADHD, Behavioural Problems and Substance Abuse

Substance Abuse + Psychopathology = Poor Outcomes for Children



Poor Outcome

Adverse Childhood Events

- ACE Study (Filetti et al. 1998)
 - 17,000 adult member of U.S. Health Care Plan
 - Questionnaire asking about ACE
 - Family characteristics
 - Sexual Abuse
 - Physical Abuse
 - Psychological Abuse
 - Linear relationship between a number of adult health outcomes and ACE
 - 4 or more ACE compared to those with none
 - 2.2 times more likely to have Ischaemic heart disease
 - 1.9 times more likely to have any cancer
 - 2.4 times more likely to have had a stroke
 - 3.9 times more likely to have chronic bronchitis or emphysema
 - 1.6 times more likely to have diabetes

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