

EARLY BRAIN & BIOLOGICAL DEVELOPMENT: A SCIENCE IN SOCIETY SYMPOSIUM

An Overview of Child Maltreatment: Implications for Child Development and Approaches to Prevention

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Where science meets real life



Objectives



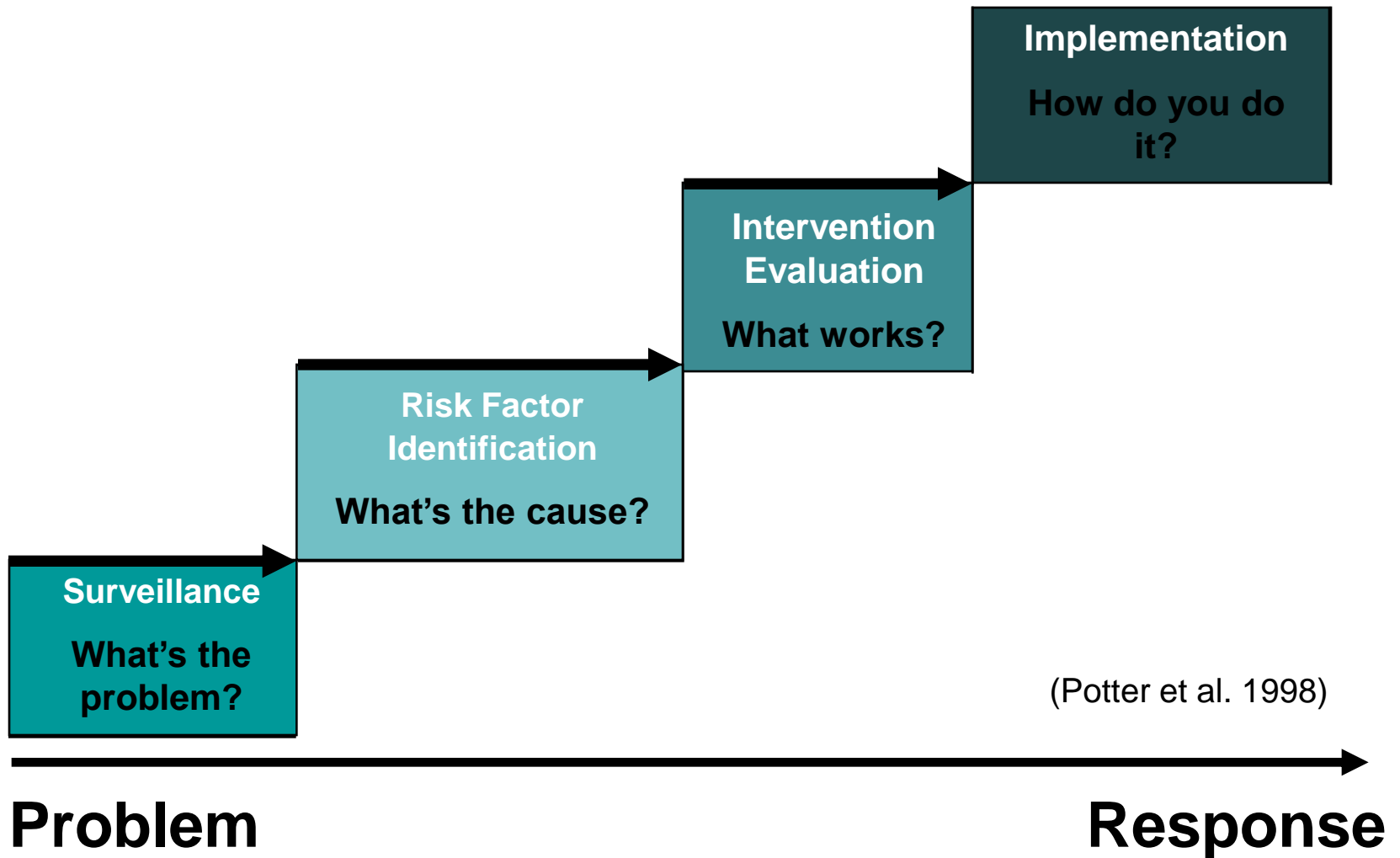
- Describe the relationship between exposure to the major types of child maltreatment and impairment in child development
- Summarize existing research about approaches to preventing child maltreatment
- Discuss what is known about preventing recurrence of child maltreatment and associated impairment

Definition: types of maltreatment

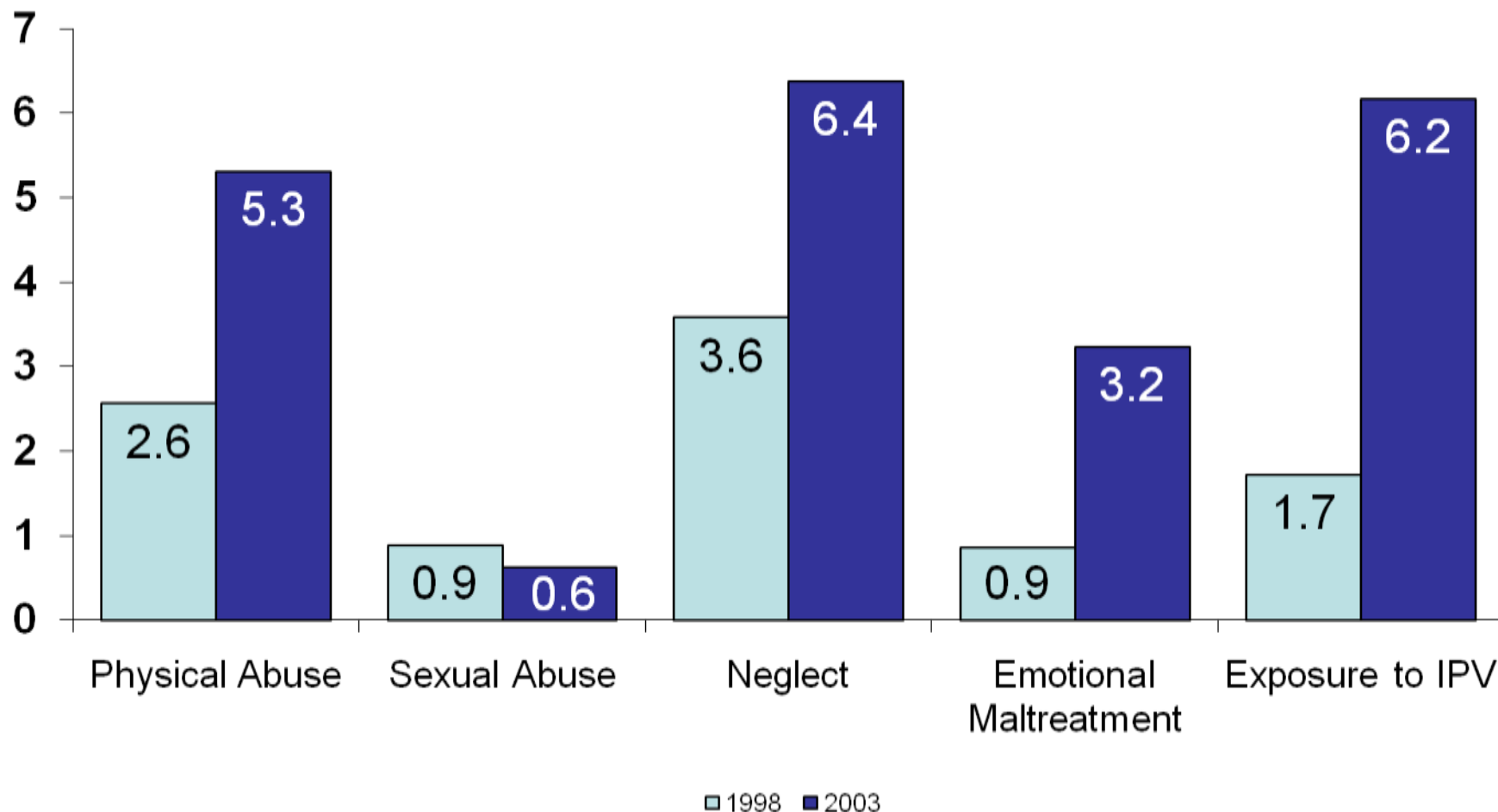


- Neglect
- Physical abuse
- Sexual abuse
- Emotional abuse (psychological abuse)
- Exposure to intimate partner violence (IPV); sometimes grouped with emotional abuse

Public Health Approach



Incidence per thousand children of substantiated child maltreatment



Source: CIS-2003 Major Findings Report, Table 9-3

Prevalence: community studies



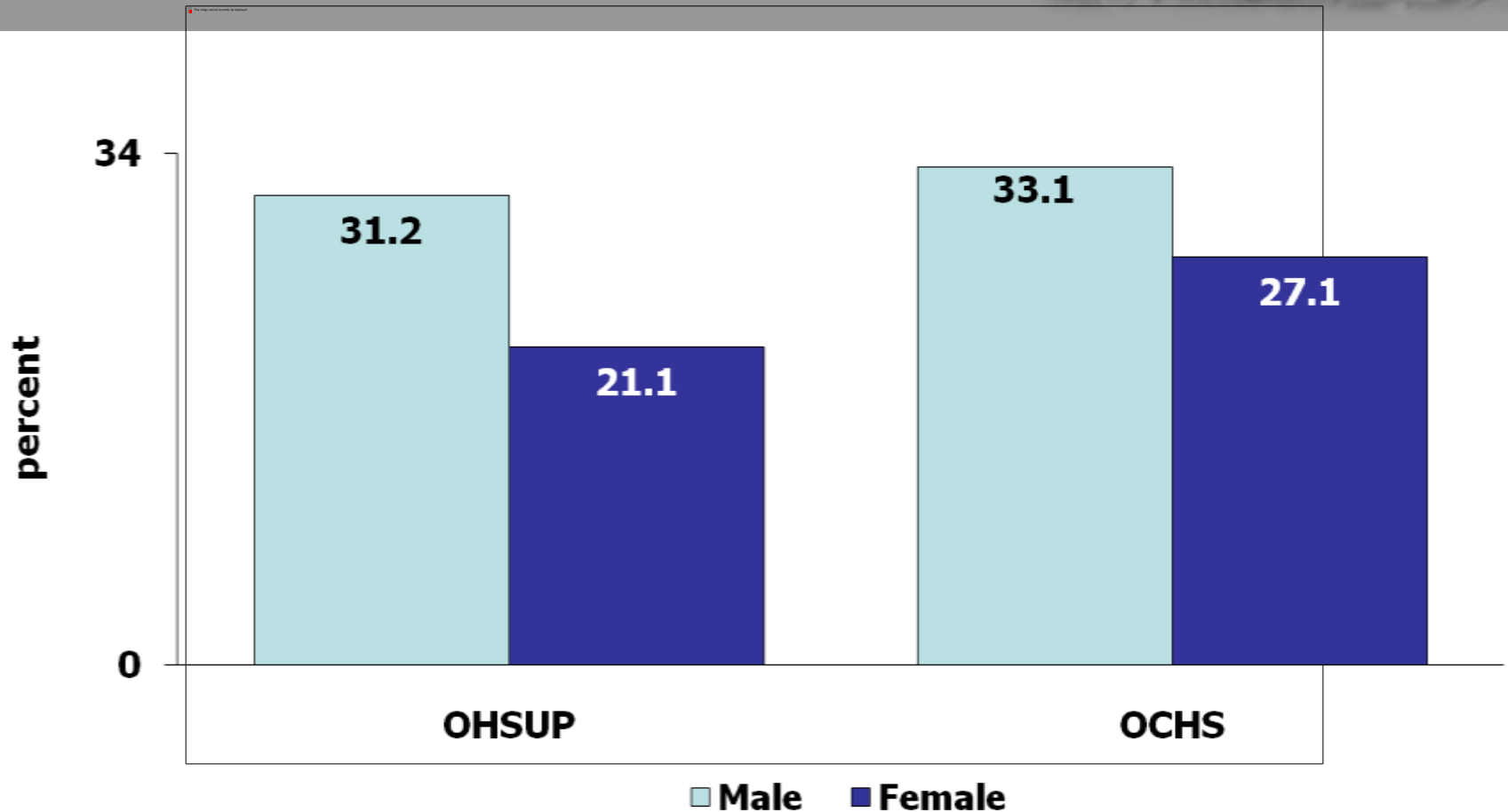
OHSUP

- General population survey of Ontario residents 15 years of age and older
- 9,953 participants

OCHS

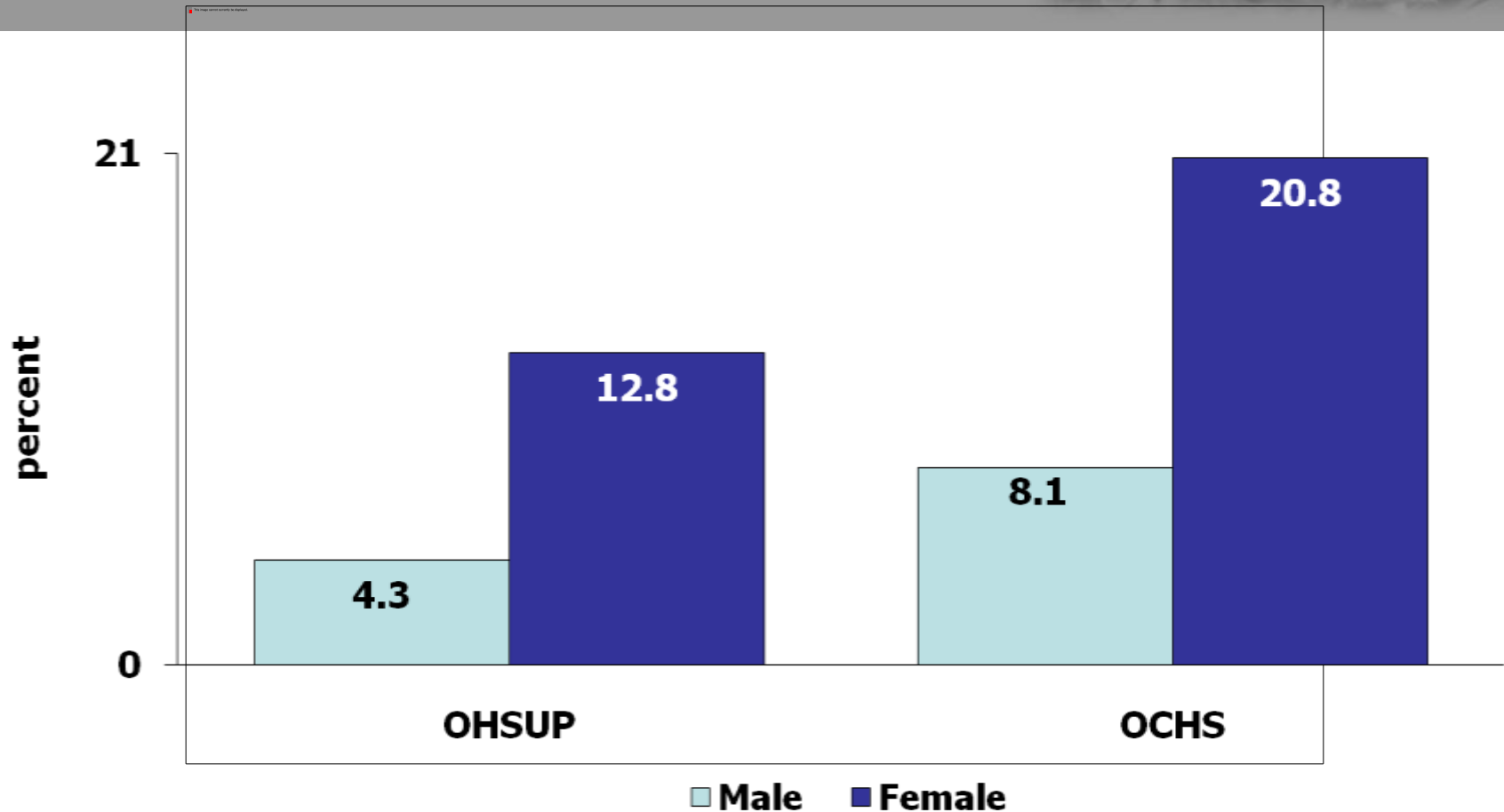
- Longitudinal study of Ontario sample with 3 waves (1983, 1987, 2001)
- 3,294 children and youths

Physical abuse by gender



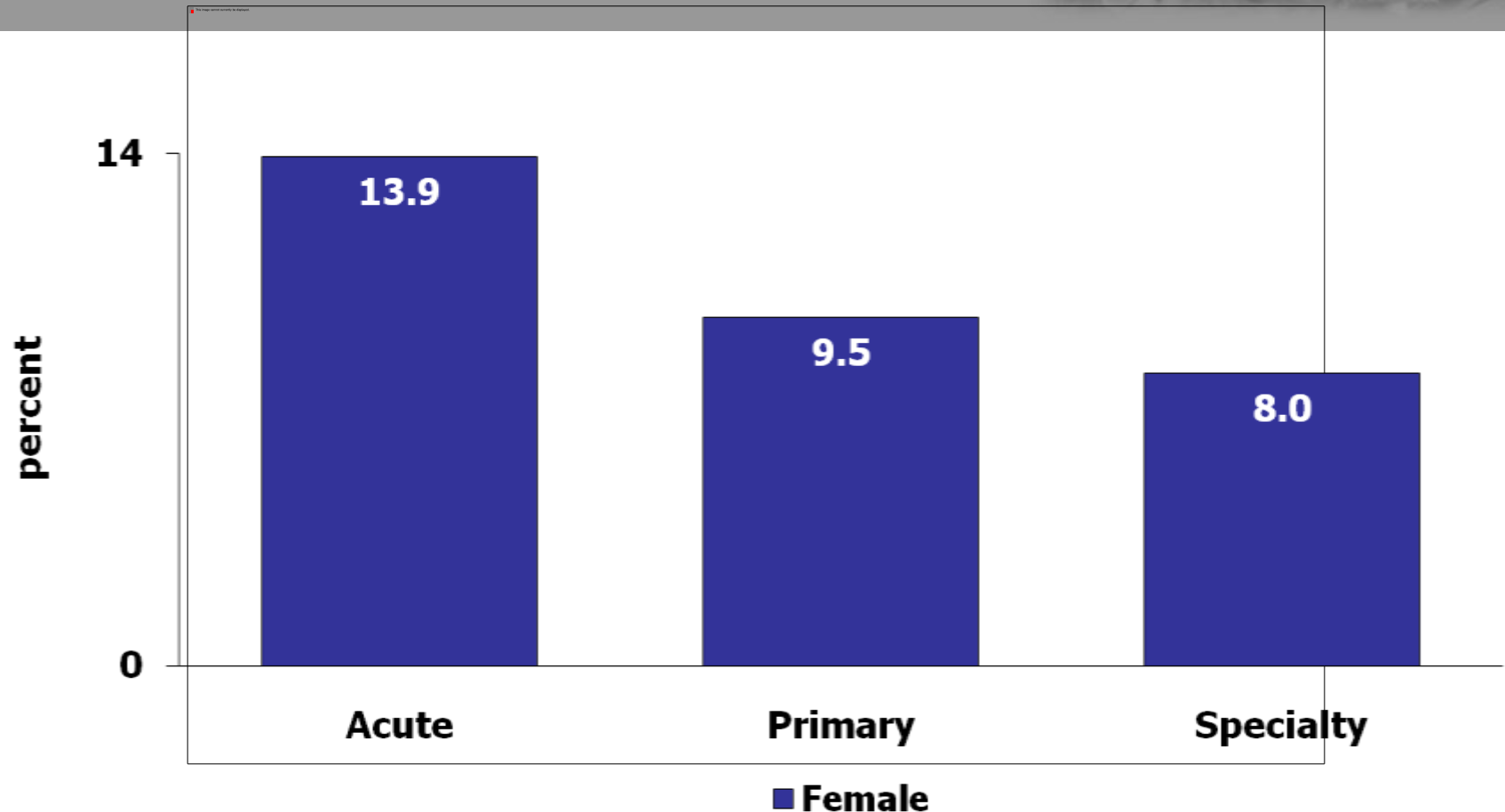
(MacMillan et al., 1997)

Sexual abuse by gender



(MacMillan et al., 1997)

Experienced IPV in last year



(MacMillan et al., 2006)

Conceptual framework



- Developmental psychopathology model
- Effects of exposure to maltreatment vary across the life span
- Effects depend on
 - nature of the exposure
 - context of the exposure
 - timing of the exposure

(Cicchetti & Toth, 1995)

Impairment across lifespan



Injury	Anxiety disorders including PTSD	Conduct disorder	Personality disorders
Affect regulation	Mood disorders	Alcohol abuse	Relationship problems
Attachment	Disruptive behaviour disorders including ADHD	Drug abuse	Maltreatment of one's own offspring
Growth	Academic failure	Other risk-taking behaviours	Chronic disease including heart disease, cancer
Developmental delay	Poor peer relations	Recurrent victimization	

Infancy

Childhood

Adolescence

Adulthood

Consequences of child maltreatment



- **Education and employment**
 - low educational achievement; low skilled employment
- **Mental health**
 - behaviour problems as child/adolescent; PTSD; depression; attempted suicide; alcohol problems
- **Physical health and sexual behaviour**
 - prostitution; obesity
- **Criminal behaviour**

(Gilbert et al., 2009)

Effect on growth and development



Hobbs et al. Child abuse and neglect: clinician's handbook, 1993



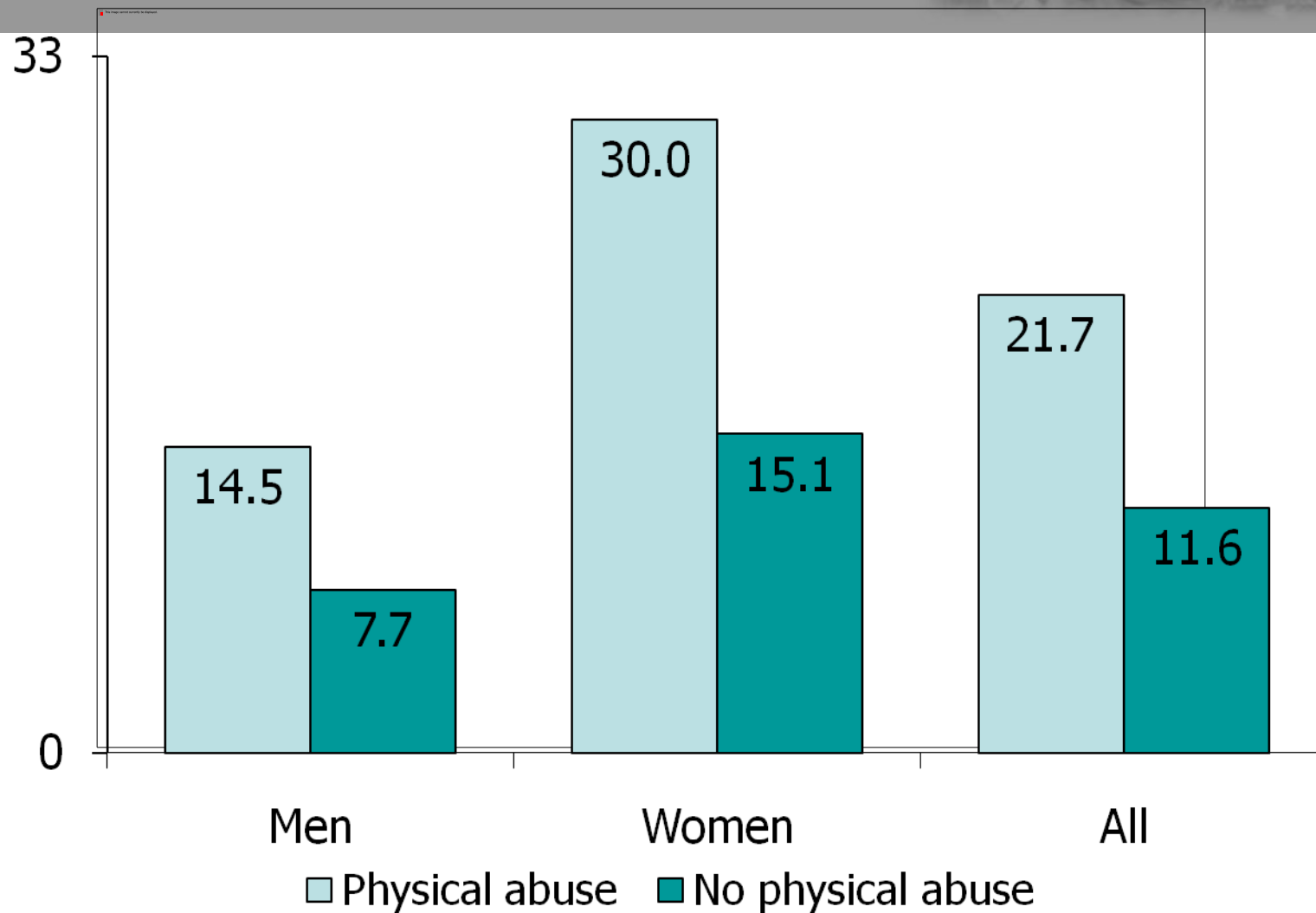
Neglect in children



- Far fewer studies on effects of neglect
- Associated with deficits in cognitive, emotional and social functioning
- Attachment disorder found in children even when deprivation confined to first few months of life

(O'Connor et al., 2001)

Child physical abuse and prevalence of depression



IPV in childhood

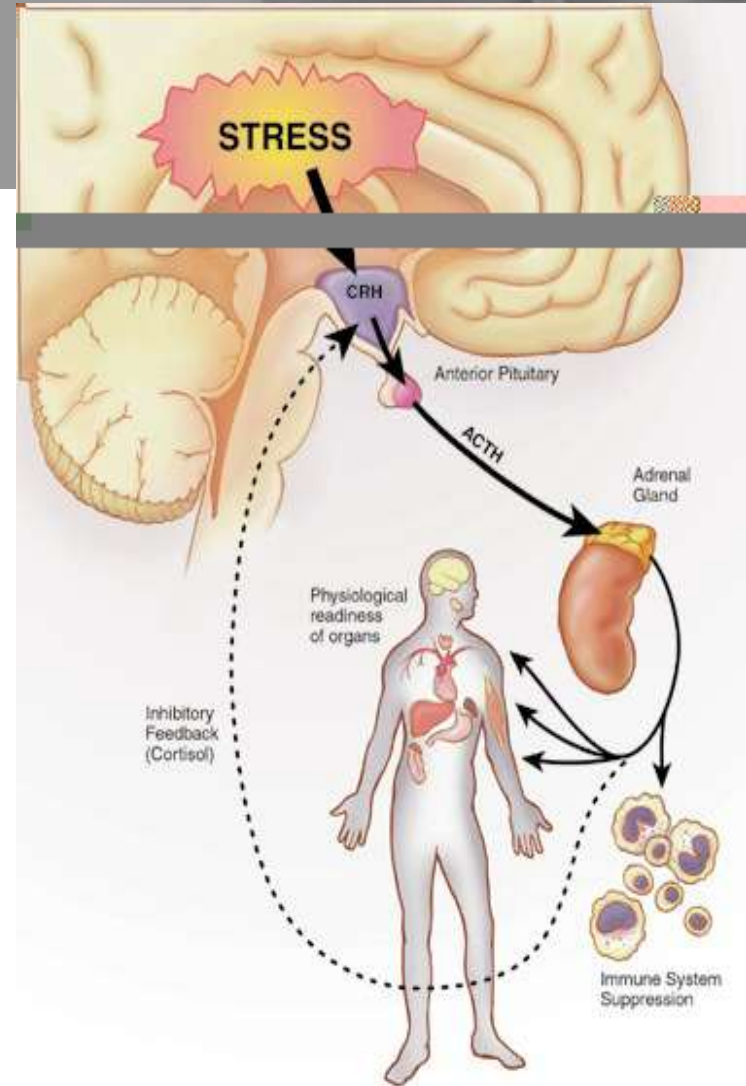


- Similar psychological and emotional problems as maltreated children (Krug et al., 2002)
- Associated with trauma symptoms, and other symptoms like anxiety and aggression (Kitzmann et al., 2003; Evans et al., 2008)
- Review of 35 studies found 30% to 60% overlap with other types of child maltreatment (Edleson, 1999)

Stress hormones

Maltreatment
damages limbic
system, amygdala
or hippocampus
through excessive
exposure to stress
hormones?

(Teicher, 2002)



HPA Axis

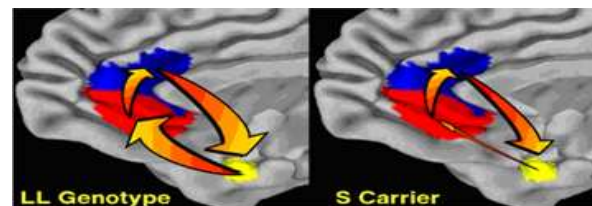
Environment-gene interactions

- Maltreated male children with genotype for high levels of MAOA expression *less* likely to develop antisocial behaviour

(“Dunedin study”, Caspi et al., 2002)

- Child maltreatment predicted adult depression *only* among carriers of “s” allele of the serotonin transporter gene promoter polymorphism

(Caspi et al., 2003)



Impairment



- In addition to impairment in emotional health:
- Conditions including ischemic heart disease, cancer, chronic lung disease, as well as poor self-rated health showed association with exposure to adverse childhood experiences including child maltreatment
- Strong dose-response relationship

(Felitti et al., 1998)

Summary

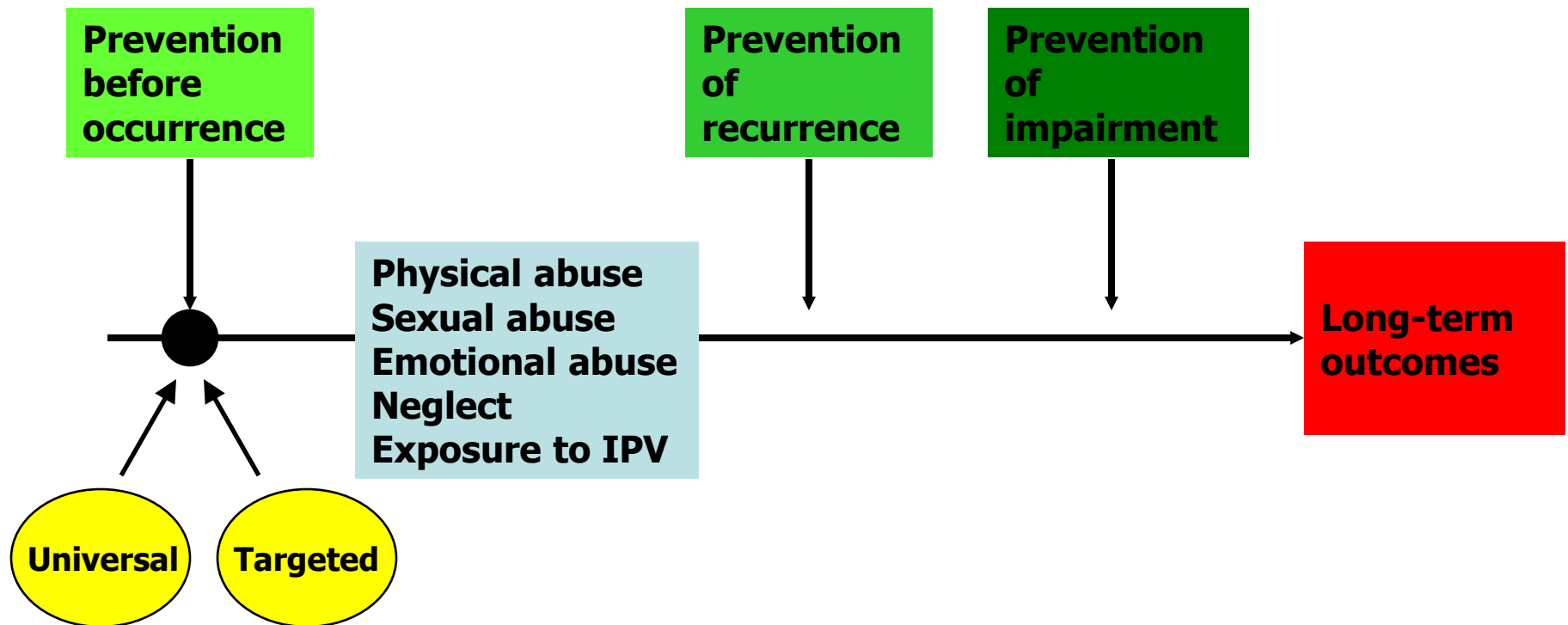


- All types of child maltreatment can have severe and lasting effects on emotional and physical health
- Background factors (such as familial factors and parent mental health) also have a role in this relationship
- Why do some children exposed to abuse experience impairment while others do not?



Preventing child maltreatment

Intervention points



Physical abuse and neglect



- Home visitation
 - Nurse Family Partnership (NFP) (best)
 - Early Start (New Zealand) (promising)
- Parent training programs
 - Triple P Positive Parenting Program (promising)
- Abusive head trauma education programs (promising)
- Enhanced pediatric care (promising)

Nurse Family Partnership Program



- First-time disadvantaged mothers received home visits by nurses
- Began prenatally and extended until child's 2nd birthday (weekly and then tapered to monthly)
- Nurses promoted 3 aspects of maternal functioning:
 - health-related behaviors
 - maternal life course development
 - parental care of children



NFP theoretical model



- Parents who empathize with their infants and respond to their babies' communicative signals are less likely to abuse or neglect their children
- Promotes sensitive, responsive and engaged caregiving
- Nurses help mothers and other caregivers review their own childrearing histories
- Nurses seek to develop a trusting relationship with mothers because it is expected that this will assist them in trusting others

(Olds, 2002)

Randomized controlled trials



Elmira, NY 1977



N = 400

- Low-income whites
- Semi-rural

Memphis, TN 1987



N = 1,138

- Low-income blacks
- Urban

Denver, CO 1994



N = 735

- Large portion of Hispanics
- Nurse versus paraprofessional visitors

Courtesy of David Olds, PhD

NFP Evaluation findings



- 2 trials showed benefits in one or more of child maltreatment, associated outcomes such as health care contact for injuries/ingestions (Elmira and Memphis trials)
- 3rd (Denver) trial showed nurses produce a larger and broader range of beneficial effects (e.g. infant caregiving, language development) vs paraprofessionals

(Olds et al., 2007)

NFP results across trials

- Improvements in women's prenatal health
- Reductions in children's injuries
- Fewer pregnancies
- Greater intervals between births
- Increases in fathers' involvement
- Increases in employment
- Reductions in welfare
- Improvements in school readiness

Courtesy of David Olds, PhD



NFP and child maltreatment



- 48% reduction in state-verified reports of child abuse and neglect
- Among mothers who were young, poor and unmarried, an 80% reduction in child maltreatment
- Reductions in child maltreatment *not* seen in families where there is IPV

(Olds et al., 2007)

(Eckenrode et al., 2000)

NFP and mental health



- Elmira trial showed 59% reduction in arrests among 15 year-old children
- Also benefits for the mothers with reductions in:
 - arrests (61%)
 - convictions (72%)
 - days in jail for the mothers (98%)

NFP and Crime

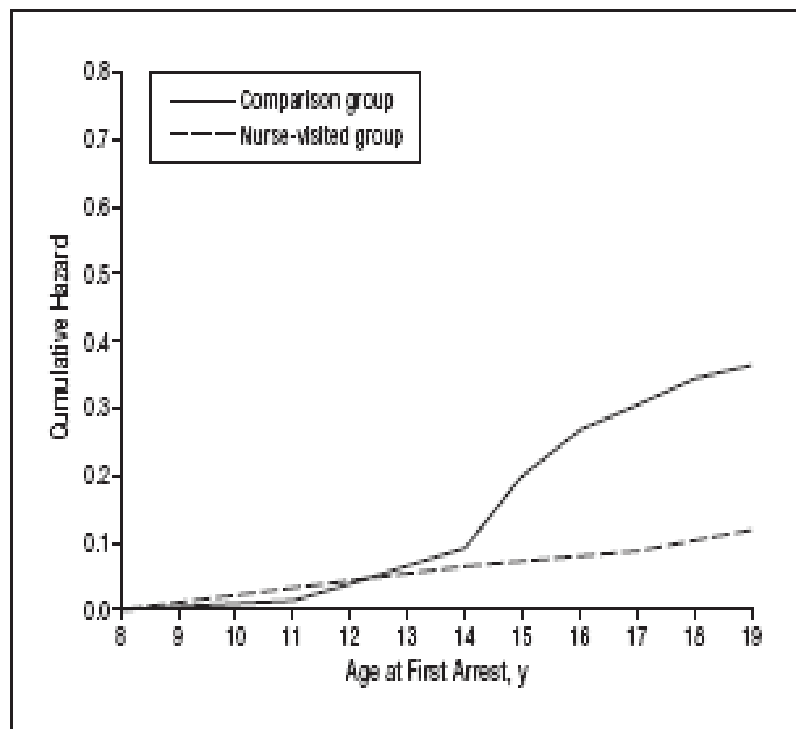


Figure 1. Cox proportional hazard curves showing the hazard of first arrest for girls in the comparison (n=73) and nurse-visited (n=43) groups.

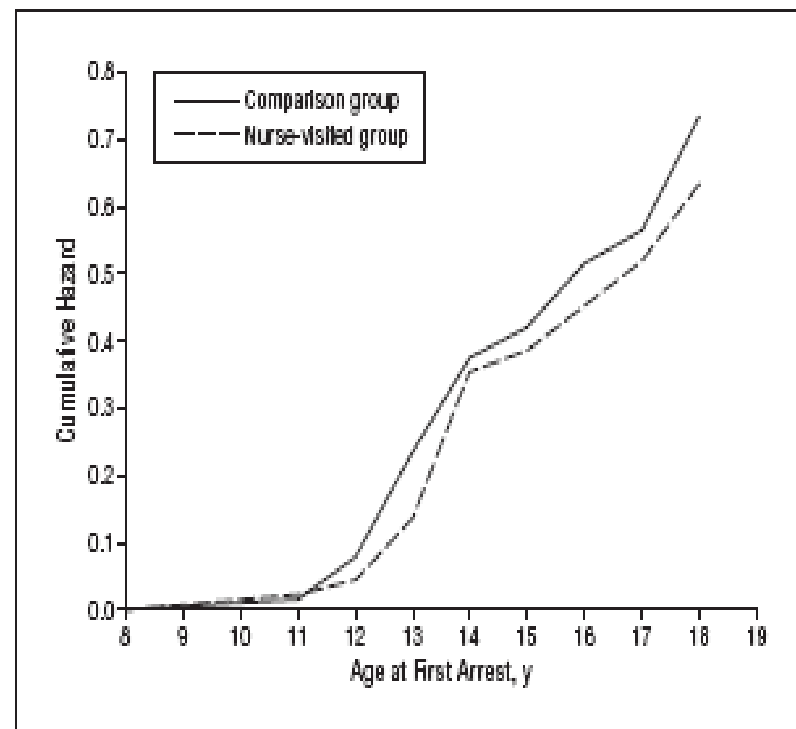


Figure 2. Cox proportional hazard curves showing the hazard of first arrest for boys in the comparison (n=67) and nurse-visited (n=47) groups.

(Eckenrode et al. 2010)

Canadian programs – evidence?

British Columbia	Building Blocks; Infant Development Program (IDP) and Aboriginal IDP	X
Alberta	Home visitation programs	X
Saskatchewan	Parent Mentoring Program; Kids First; Early Childhood Intervention Program	X
Manitoba	Families First	X
Ontario	Healthy Babies Healthy Children program	X
Quebec	Services intégrés	X
New Brunswick	Early Intervention Home Visiting Program	X
Nova Scotia	Healthy Beginnings: Enhanced Home Visiting	X
Prince Edward Island	Best Start Program	X
Newfoundland/Lab	Healthy Beginnings; Direct Home Services Program	X
Yukon	Healthy Families Program	X
Northwest Territories	Healthy Families Program	X

No territory-wide programs in Nunavut

Triple P – Positive Parenting Program



Population-level supports for families

1. use of media/information strategies
2. consultations with parents; seminars
3. consultations with active skills training
4. sessions with skills training, home visits or clinic observation or group program
5. augmented version of level 4

(Prinz et al., 2009)

Triple P - Positive Parenting Program

- Positive effects in substantiated cases of child maltreatment, out-of-home placement and injuries
- Findings are promising, but some problems in analysis and need to be replicated

Abusive head trauma education



- Hospital-based parent education program – leaflet plus video
- Describes dangers of shaking and provides information about responses to infant crying
- Regional incidence of abusive head injuries in infants decreased 47% during 5.5 years of study compared with previous 6 years

(Dias et al., 2005)

Enhanced pediatric care



- Program for families at risk
- “Safe Environment for Every Kid”
 - special training to identify family problems and social worker available
- Promising effects suggest that enhancing physicians’ abilities to identify and help families decrease risk factors for child maltreatment might be effective

(Dubowitz et al., 2009)

Sexual abuse



- Primarily school-based programs
- Emphasize prevention of sexual victimization
- Focus on teaching children to recognize potentially dangerous situations
 - ...no study has shown that education programs actually prevent child sexual abuse

(Zwi et al., 2007)

Emotional abuse



Therapeutic counselling

- Attachment-based interventions might improve insensitive parenting and infant attachment insecurity
- But there is no direct evidence that these interventions prevent emotional abuse

(Bakersman-Kranenburg et al., 2003)



Preventing recurrence of child maltreatment and impairment

Principles of intervention



- Maltreatment is an exposure not a disorder
- Outcomes are not exposure-specific; a wide range of symptoms/disorders are associated with the five main types of maltreatment
- It is important to ensure treatment is not occurring in environment of ongoing abuse and/or neglect

Principles of intervention



- Clinicians traditionally focus on dealing with impairment; child protection workers on ensuring no recurrence
- Communication with all professionals involved with children and parents is essential
- Cannot assume that improvement in risk marker – e.g. parental psychiatric illness – leads to reduction in maltreatment

Case example



- Parents and four children referred by child protection agency
- History of IPV, physical abuse and neglect
- Children all diagnosed with disruptive behaviour disorders; were receiving medication and additional help at school

Recurrence of physical abuse and neglect

- Parent-child interaction therapy (PCIT) is a behavioural approach to skills training
- Three modules: 1) orientation group; 2) clinic-based parent-child sessions; 3) follow-up group program
- At 2.3 years, 19% versus 49% had re-report of physical abuse
- No effect on reports of neglect

(Chaffin et al., 2004)

Recurrence of physical abuse and neglect



- Intensive program of nurse home visitation (Family Connections Study) conducted in Hamilton, Ontario
- Developed to evaluated provision of services to families involved with child protection that exceed what is commonly available
- Is not the NFP, but theoretically based on the strengths of this program

Study design and follow up



163 families referred from C/CAS

Child newborn to 12

Verified physical abuse or neglect; no sexual abuse

Episode of abuse within last 3 months

Randomized

Standard treatment

89% retained

**Standard treatment +
Home visitation**

82% retained

Assessed recurrence of maltreatment
and associated outcomes

Intervention

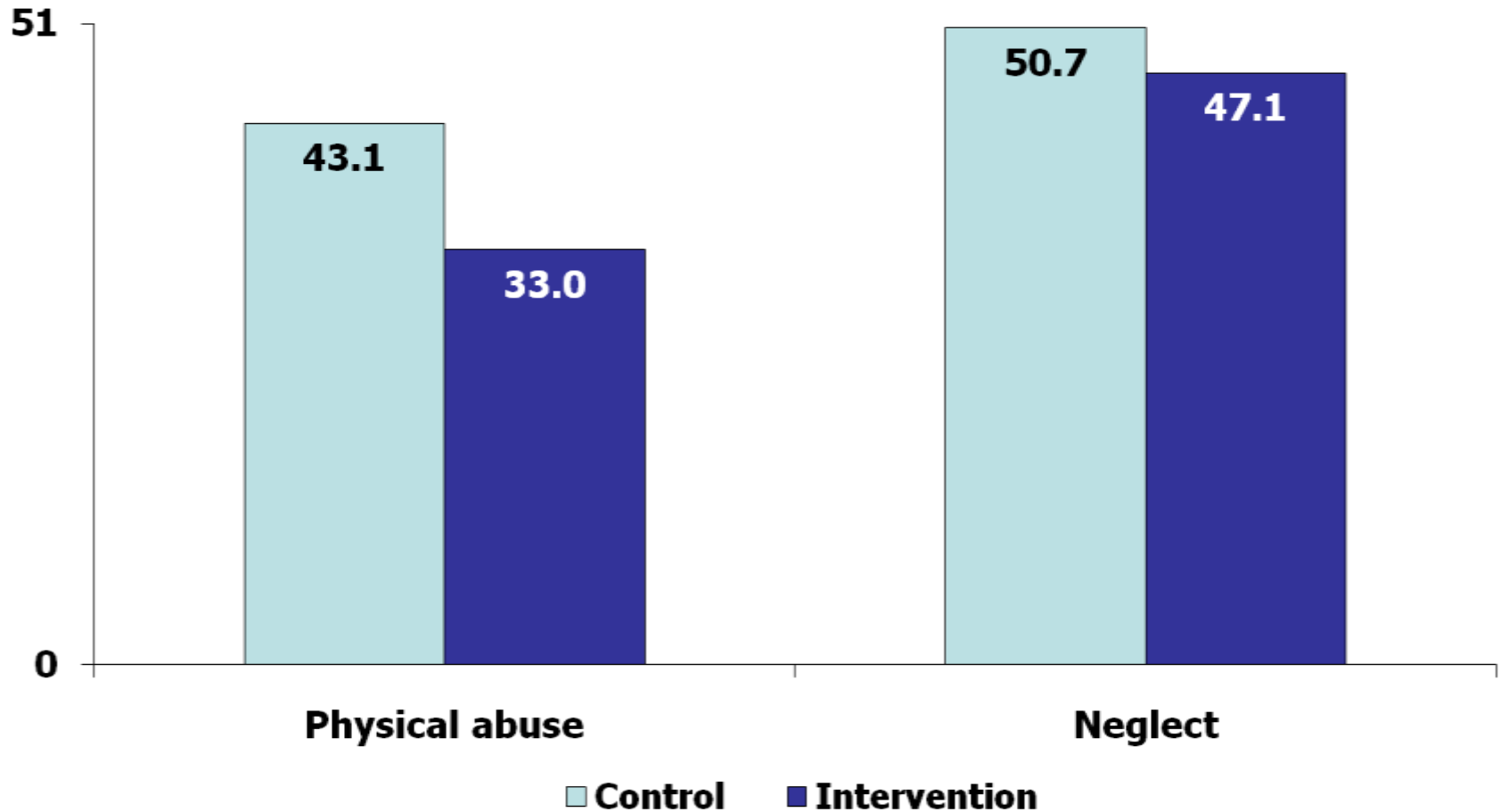


Visits (1.5 hours) by PHNs occurred weekly for 6 months, every 2 weeks for 6 months, then monthly for one year

PHN home visitation focused on

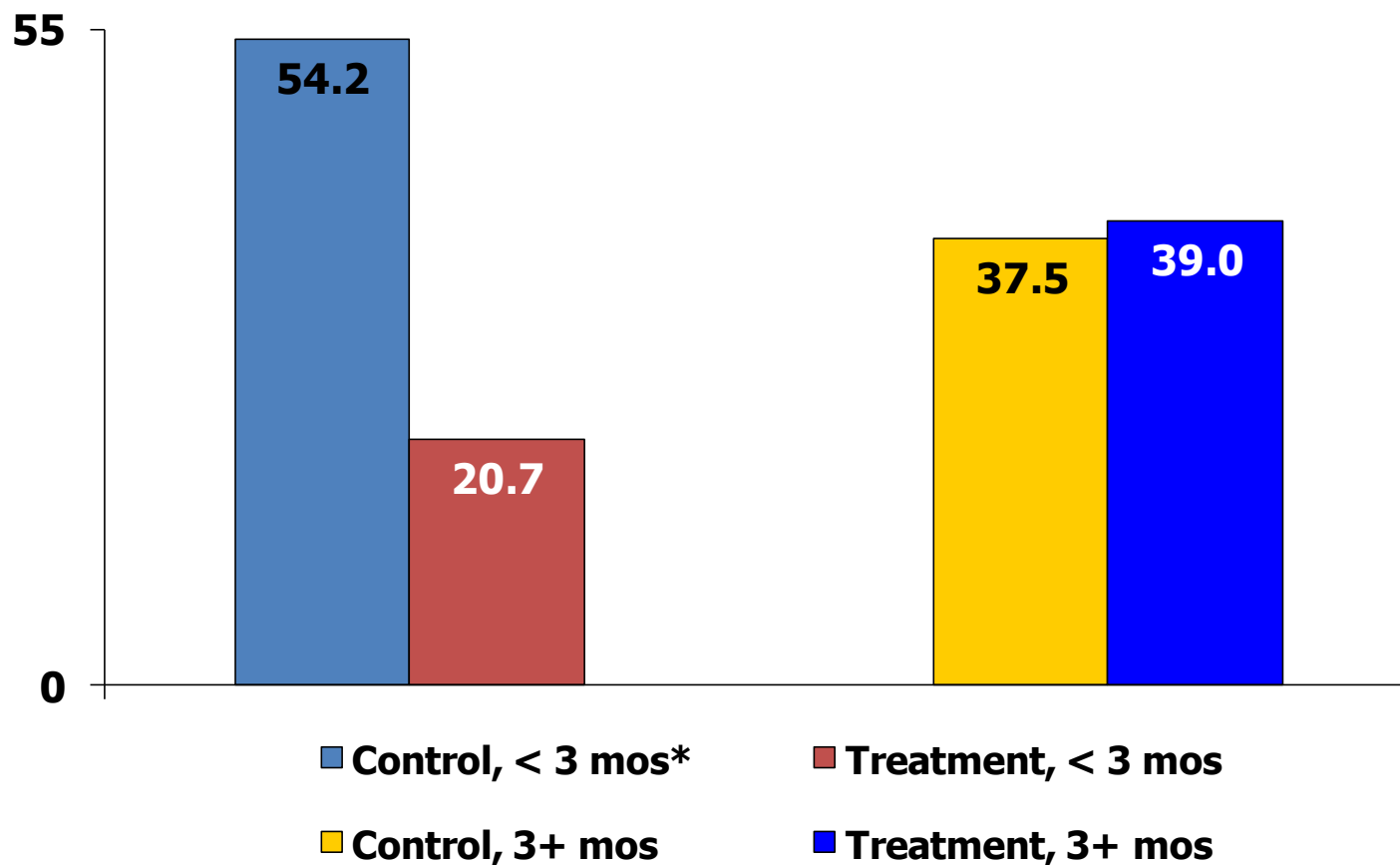
- Parent support
- Linkage with health services
- Parental education regarding child development

Recurrence by group



(MacMillan et al., 2005)

Recurrence of physical abuse*



*by group and length of involvement with CAS

Impairment following sexual abuse



- Evidence for Trauma-focused (TF) CBT in reducing certain types of impairment among children with PTSD symptoms
- Program involves cognitive reframing, positive imagery, parent management training, problem solving with educational and supportive elements

(Cohen et al., 2004)

Impairment following IPV exposure



- Some evidence for mother–child therapy in families where children are exposed to IPV in reducing children’s internalizing and externalizing behaviour problems and symptoms
- Therapy provided to mothers and preschoolers together with sessions focused on eliciting trauma play and social interaction

(Lieberman et al., 2005, 2006)

Foster care



- Prospective cohort study of children 7 to 12 years entering foster care in San Diego for at least 5 months
- Reunified youth showed more risk behaviour problems, school drop-out, lower competence
- Findings suggest that youth who reunify with their biological families have more negative outcomes than youth who do not reunify

(Taussig et al., 2001)

Summary



- Association between child maltreatment and impairment is evident for all 5 types
- NFP (targeted home visitation model) prevents child maltreatment and associated outcomes
- Preventing recurrence of child maltreatment is a much greater challenge; PCIT promising for physical abuse
- CBT shows benefits for sexually abused children with PTSD symptoms
- Foster care can lead to benefits for youth compared with those who reunify with their biological families



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Preventing Violence Across the Lifespan Research Network



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Welcome to the PreVAiL Research Network

April 2010

PreVAiL, which stands for **Pre**venting **V**iolence **A**cross the **L**ifespan, is an international research collaboration of over 50 researchers and partners from Canada, the US, the UK, Asia, Europe and Australia, funded by the Canadian Institutes of Health Research's Institute for Gender and Health (2009-2014). Our goal is to bring together researchers and decision-maker partners to produce and share knowledge that will help children, women and men exposed to child maltreatment and intimate partner violence (IPV).

PreVAiL has three main objectives:

1. to increase knowledge about the links between mental health impairment, gender and exposure to child maltreatment and IPV, both in Canada and internationally;
2. to develop interventions to prevent or reduce child maltreatment, IPV and related mental health problems; and
3. to develop and use proven methods of knowledge translation and exchange to ensure that our research findings reach those who make decisions in these areas.

PreVAiL is organized according to three theme areas, and is guided by an Advisory Committee:

- Theme 1 - Gender, Mental Health and Violence Network
- Theme 2 - Understanding and Fostering Resilient Mental Health Outcomes in the Context of Violence across the Lifespan
- Theme 3 - Innovations in Knowledge Translation & Exchange Strategies and Research Methods Specific to Mental Health, Gender and Violence across the Lifespan

Please see our [summary](#) for more information.

Please browse our site. We provide regular updates about ongoing projects and background information about our researchers and partners.

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