



“Ghosts in the Nursery”

- the importance of infant mental health

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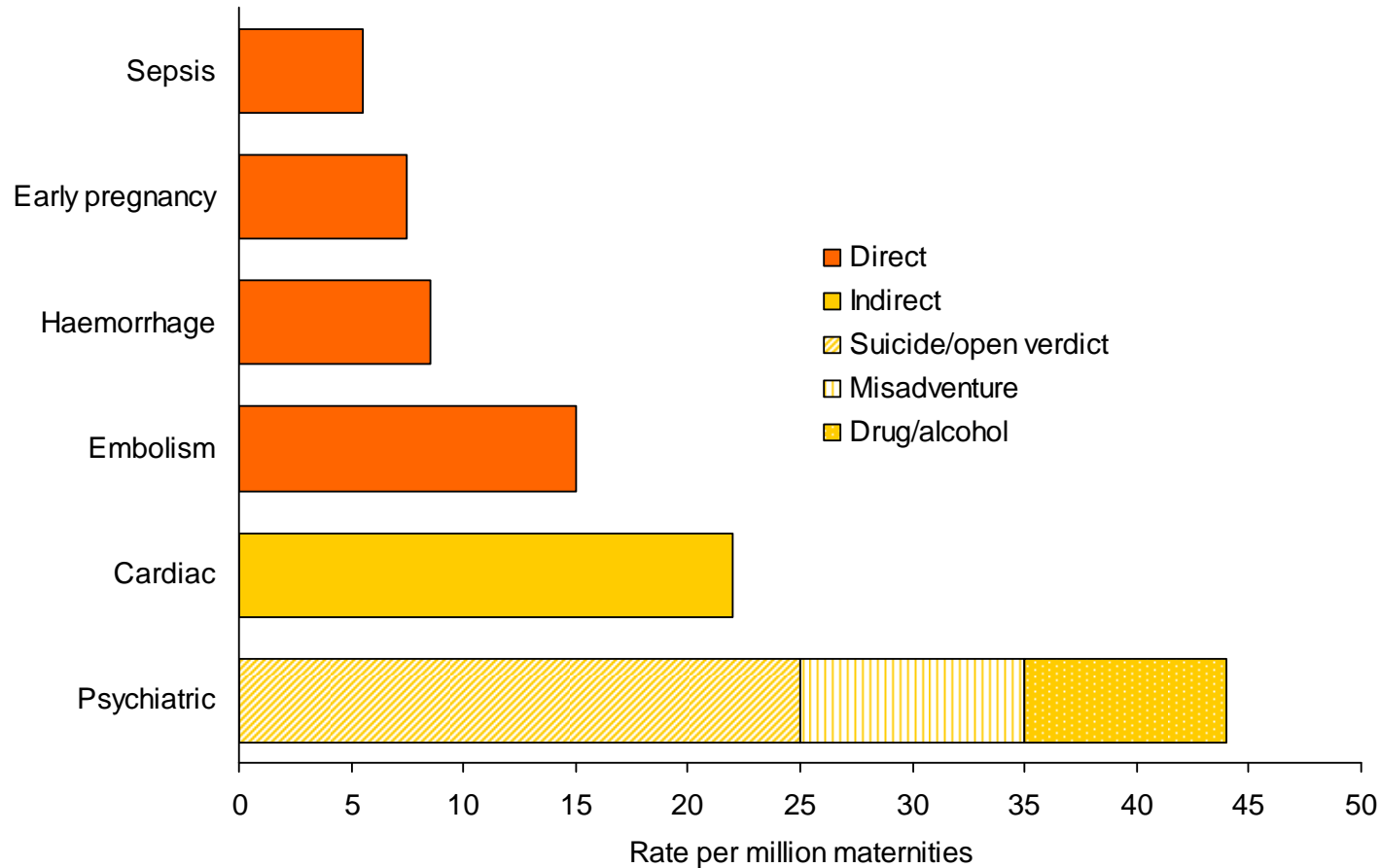
Population benefits



- Expenditure incurred for society by age 28 for a 10 year old child with conduct disorder = £70,000 v. £7,500 (Scott et al, 2001)
- Costs of child maltreatment v. preventative interventions for all new parents = 19:1 (Caldwell, 1992)

Confidential Enquiry into Maternal Deaths

'Why Mothers Die' 2000-2002



Glasgow Perinatal Mental Health Service



- Integrated Care Pathway
- Community Outreach Team
- Maternity Liaison (3 hospitals)
- Mother and Baby Mental Health Unit
 - 6 beds/cots
 - Regional remit (10,000 - 25,000 births/yr)



Role of Perinatal Mental Health Services

- Prevention, early detection and management of mental illness occurring in the perinatal period
- Assessment of risk to children and parenting skills in the context of significant acute maternal mental illness
- Providing education and support to partners and families of women with perinatal mental illness
- Appropriate facilitation & enhancement of the mother-infant relationship where the mother suffers from severe mental illness

Infant Mental Health



“The promotion of the development and wellbeing of infants and young children within secure and stable parent-child relationships”

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Attachment theory

- Bowlby - theory
- Ainsworth - empirical delineation ('strange situation')
 - Deep emotional connection that infant forms with primary caregiver
 - Secure base for exploration and development of other relationships
 - Fostered by sensitive responsiveness of primary caregiver
 - Two-way process - infant characteristics also important
 - Reflects an 'internal working model' expressing the infant's expectations of parental behaviour in emotionally meaningful situations & facilitating self-regulation of emotional states
- Adult attachment is a predictor of infant attachment (Steele et al, 1994)
- Increasingly recognised as important determinant of later emotional, cognitive and social outcomes



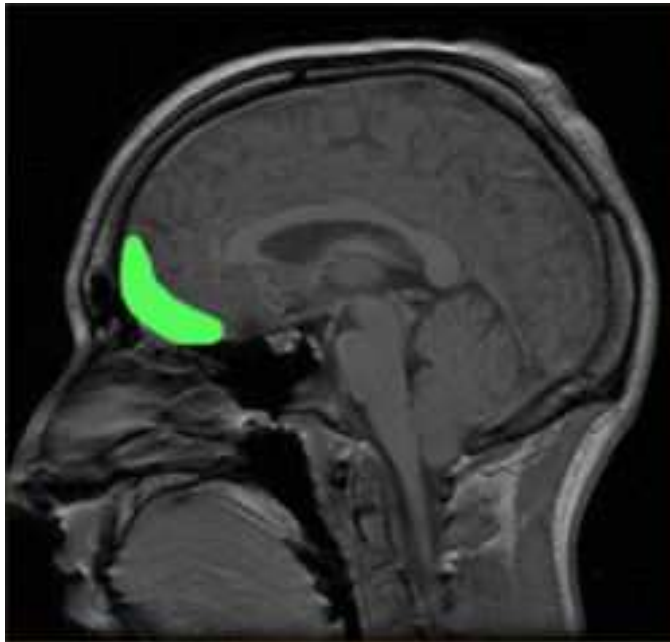
Attachment theory

- Types of attachment
 - Secure (55%-60%)
 - Insecure (30%)
 - Anxious-avoidant (22%)
 - Anxious-ambivalent (8%)
 - Disorganised (10%- 15%)
 - (Non-attachment)
- Factors associated with later secure attachment (Tronick, 2002)
 - Sensitivity
 - Attunement
 - Warmth
 - Synchrony
 - Reparation of ruptures

Determinants of early brain development

- Shift from exclusively genetic to environmental influences
- At birth 100 billion neurons but not part of functional networks
- First few years forming, reinforcing, pruning and permanence
 - 1.8 million new synapses per second between 2/40 and 2 yrs; 15,000 synapses per neuron; 500 trillion synapses at 2 yrs; 1000 trillion at 3 years; 500 trillion adult
- Lifelong development but much reduced after early childhood years (apart from puberty)
- *‘Neurons that fire together wire together’*
- *Social interaction determines brain development*

Orbitofrontal cortex

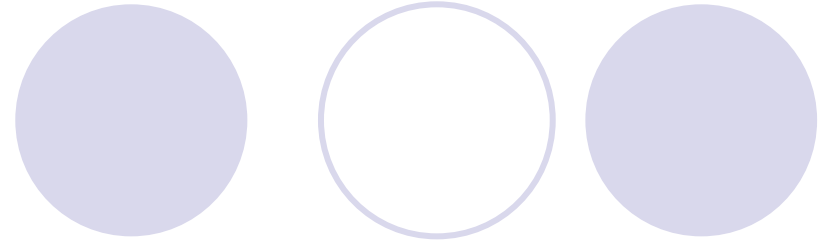
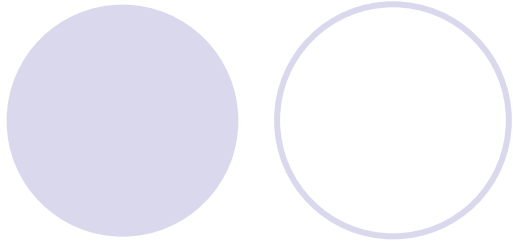


- Convergence zone between cortex and subcortex
- Cortical component of limbic system
- Processes and regulates autonomic centres
- Interprets and 'translates' primary states into recognisable emotions
- Develops from 3-6 months
- 3 circuits of self-regulation
- Dependent on effective attachment figure
- Impaired development with abusive or neglectful parenting

Stress responses



- Fight/flight (Hyperarousal) or Freeze (Dissociation)
- Reinforced by continuous exposure to trauma/abuse
- Linked with development of disorganised attachment
- Pathways established that bypass higher inhibitory control
- Persistently elevated cortisol impairs neuronal development
- Secure attachment cope with stressful events without cortisol rising



“The ‘instruction’ to attend to the primary caregiver is genetic, the outcome depends on what happens”

Balbernie, 2001

“Infants develop the attachment behaviours that optimally enhance their survival in their own characteristic environments.”

Crittenden, 2000

Modifying adversities



- Maternal depression
- Other parental mental illness
- Substance misuse
- Poverty
- Infant characteristics



Targetting vulnerable groups

- **Mental illness**

- 10%-15% postnatal depression

- Rising rates of fertility in severe enduring mental illness

- Early onset of illness in vulnerable groups



Is intervention possible?

- Plasticity retained throughout life but increasingly difficult to repair 'hard wiring' changes - critical window for emotional experience in the first 2 years of life
- Need to focus on a) prevention, b) resilience
- **Abercedarian Project**
 - Children (of parents with low income) randomly assigned to vigorous 5 year programme of all-day childcare and activities to involve parents or free formula and nappies
 - At 3 years - average IQ 105:85
 - At 12 years - IQ advantage maintained and educational achievement greater

Interventions

SureStart



Solihull Approach



Mellow Parenting
Mellow Babies



Sunderland Infant Project

- Universal, targeted, cost-effective programme to support parents enabling their infants to develop a secure attachment by their first birthday
- 3-4 min video clip, rated using Crittenden's CARE-Index
- Different levels of intervention where problems identified
 - Developmental guidance
 - Interaction guidance
 - Parent-infant psychotherapy / family therapy
- **NB: Infant massage (Field, 1996)**



Making interventions work

- Target those most likely to benefit
- Whole family approach
- Early timing (infancy)
- Higher intensity
- Appropriate training for staff
- Therapeutic alliance with parents

Karoly et al, 1998

Problems:

- Home-based support for disadvantaged mothers (Bennett et al, 2007)
- Effects of treating postnatal depression on m-i interaction and child development (Poobalan et al, 2007)

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Challenges

- Separation of services
 - Adult mental health, CAMHS, Perinatal mental health services
 - Education
 - Social Work
 - Primary Care / Health Visiting
 - Maternity
- Targeting - whole population, vulnerable groups, existing 'pathology'
- Timing of interventions
- Addressing parent's, infant's and parent-infant dyad's needs (NB PND)
- Solutions
 - Better links
 - More research
 - Needs of mentally ill parents
 - Early identification of vulnerable groups
 - Evaluation of interventions