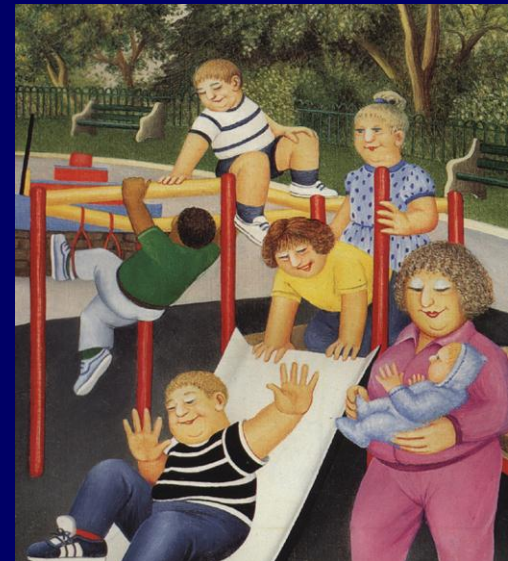


# TACKLING OBESITY FROM THE START:

Clues from research with babies, toddlers and preschool children

Mary Rudolf  
Bar Ilan Faculty of Medicine in  
the Galil, Israel & University  
of Leeds, UK



# WHY FOCUS ON BABIES AND TODDLERS?

DH statistics for school entry



Sleep apnoea  
Psychosocial difficulties  
Asthma  
Markers for  
cardiovascular disease

Diet  
Physical activity  
Television

# INFANT GROWTH & OBESITY

Infants who are obese in the first two years of life have up to 10 times the risk of subsequent obesity

Infants who gain weight rapidly in the first year have up to 6 times the risk

Baird et al. BMJ 2005; 331: 929-31

Most excessive weight is gained before 5 years. This closely predicts weight at 9 years and metabolic markers.

Gardner DS et al. Pediatrics 2009. 123:e67-73



# OTHER PERINATAL DETERMINANTS OF OBESITY

## FAMILY AND SOCIAL

- Parental obesity
- Poverty
- Race and ethnicity

## NEONATAL

- Birth weight
- Bottle feeding
- Early weaning

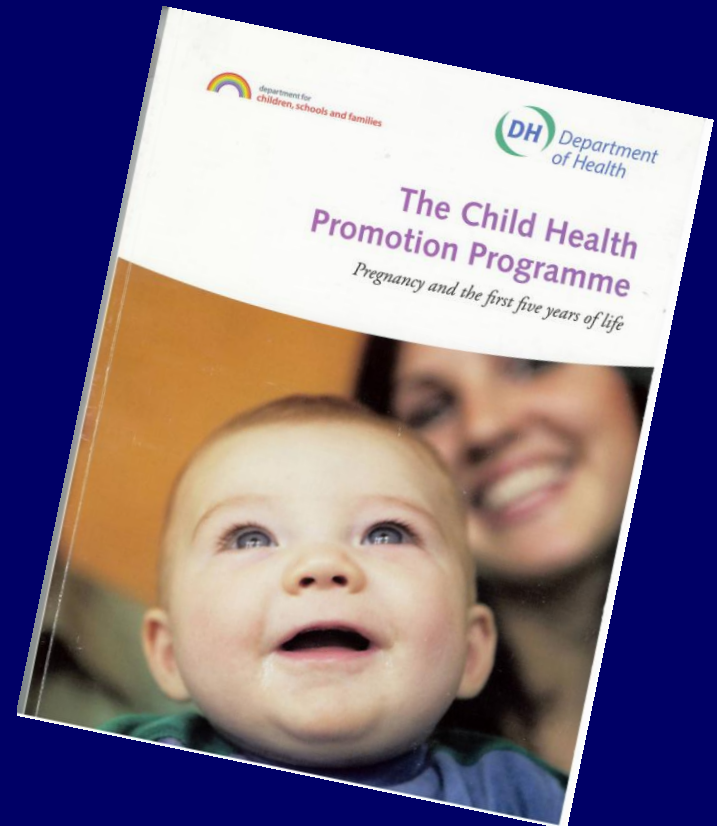
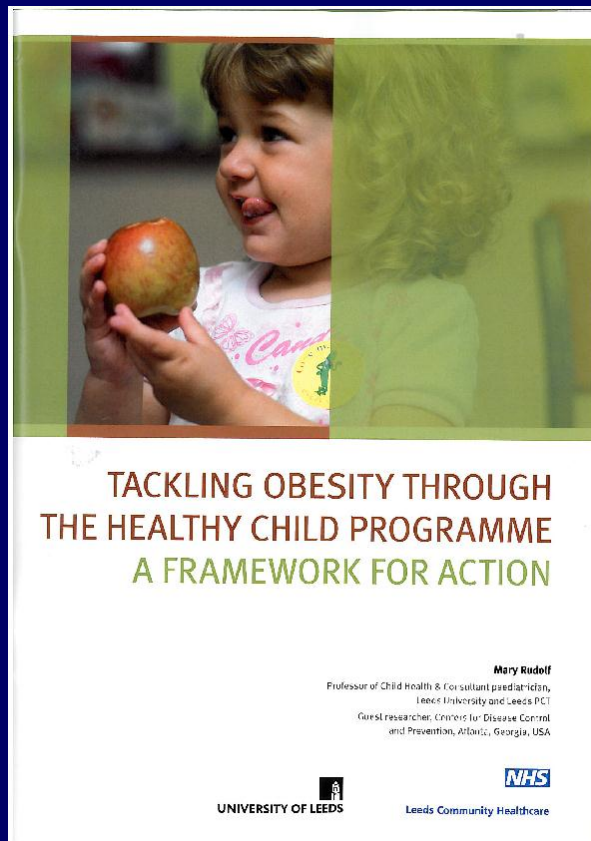
## PREGNANCY

- Maternal obesity
- Weight gain in pregnancy
- Gestational diabetes
- Smoking



# WHAT CAN WE DO?

## Some evidence based clues



Rudolf MCJ. Published on  
[www.noo.org.uk/Mary\\_Rudolf](http://www.noo.org.uk/Mary_Rudolf)



# WHAT CAN WE DO?

## SOME EVIDENCE BASED CLUES

- Infant feeding - breast and bottle
- Infant feeding practices
- Food preferences
- Appetite regulation
- Mothers' feeding styles
- Physical activity and sleep
- Health care providers' skills and attitudes

# BREASTFEEDING



- Systematic reviews
- Even if only 6-8 weeks
- Dose response
  - Duration
  - Exclusivity
- Preschool/school/adolescent\*

# WHY MIGHT BREASTFEEDING BE EFFECTIVE?



- Self regulation
  - Quantity of milk consumed
  - Carry over to solids
- Metabolic programming
  - Insulin
    - Bottle fed babies have higher levels and prolonged response at 6 days.... 5mths
  - Leptin
    - Breast milk contains leptin, but bottle milk does not



# OTHER INFANT FEEDING PRACTICES

- Preparation of feed - >6oz
- “Finishers”
- Introduction of solids
- Juice



# FLAVOURS AND FOOD PREFERENCES

- Fruit and vegetable consumption
- Animal studies
- Carrot juice
- PKU formula

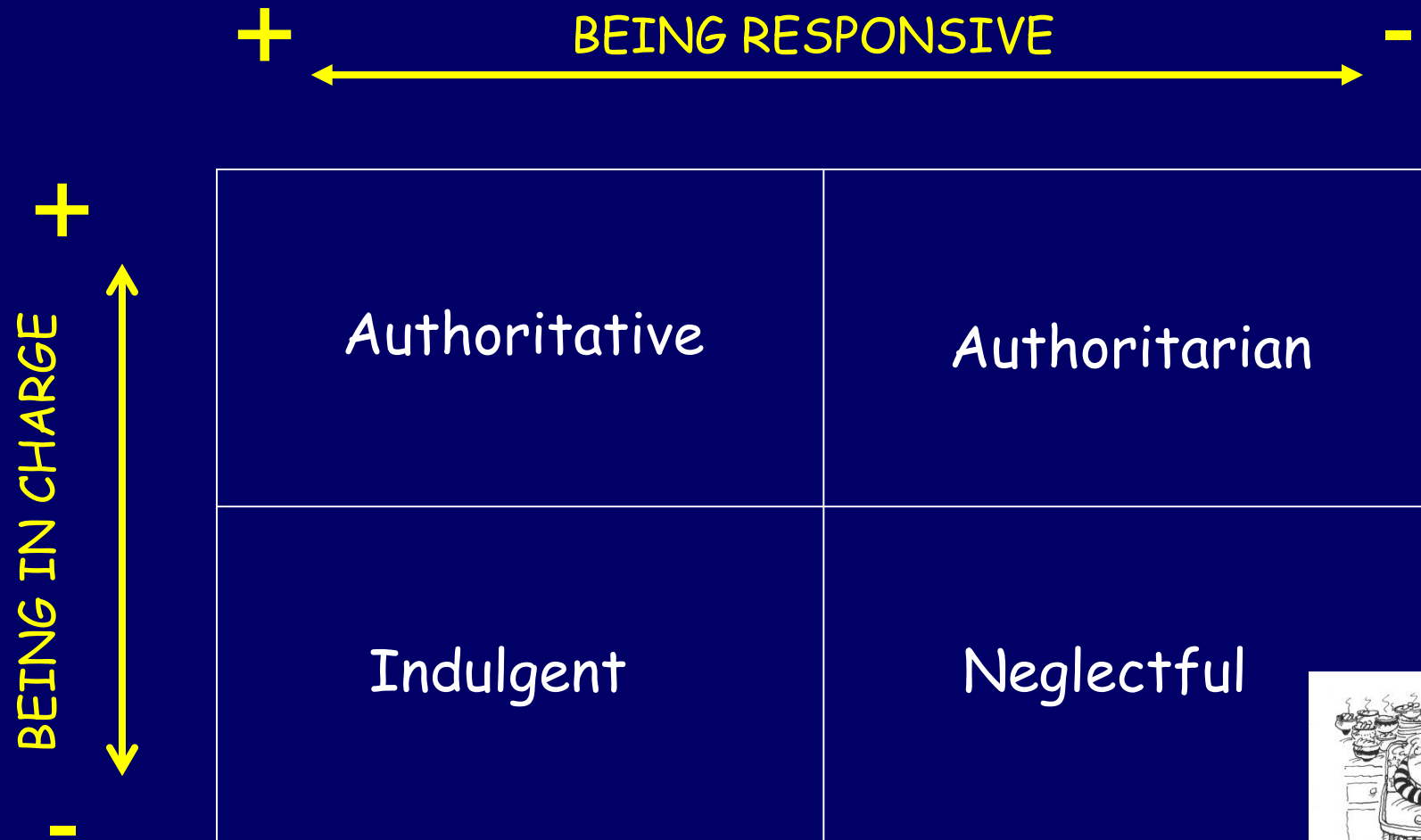


Tepper BJ. Ann Rev Nut 2008. 28:367-388  
Mennella J et al. Pediatrics 2001; 107:E88  
Birch L. Ped Clinics of N Am 2001 48: 893-907

# APPETITE REGULATION AND OBESITY

- Can babies regulate their food intake?
- Mothers' feeding styles
- Preschoolers and velcro stomachs!

# PARENTING STYLES



# PARENT MODELLING

*The best way to encourage your child to become the adult you have dreamed of is to become the type of adult you would like him to be'* Robin Sharma, PATCH

There is a direct association between mothers' and their children's (girls) eating behaviour for:

- Fruit and vegetable intake
- Dietary fat
- Beverages
- Likes and dislikes
- Dietary restriction
- Timing of eating
- Where food is eaten

# ASSOCIATIONS BETWEEN PARENT FACTORS AND CHILD OUTCOMES

		Intake	Obesity
Negative factors	Prompting to eat	↑	↑/↓
	Use of rewards	↑	
	Restricting access to food	↑	↑
	Control over intake	↑	↑/↓
	Large portion sizes	↑	
Positive factors	Availability of healthier foods	√	
	Accessibility of healthier foods	√	
	Parent modelling	√	
	Parental warmth/sensitivity		↓
	Family meals		↓



# APPETITE REGULATION AND OBESITY

- Preschoolers and velcro stomachs!



# PLAY, SCREENTIME AND SLEEP

- Levels of activity at 3 yrs
  - 79% day is sedentary
  - Only 2% in MPVA

Reilly JJ. Lancet 2009

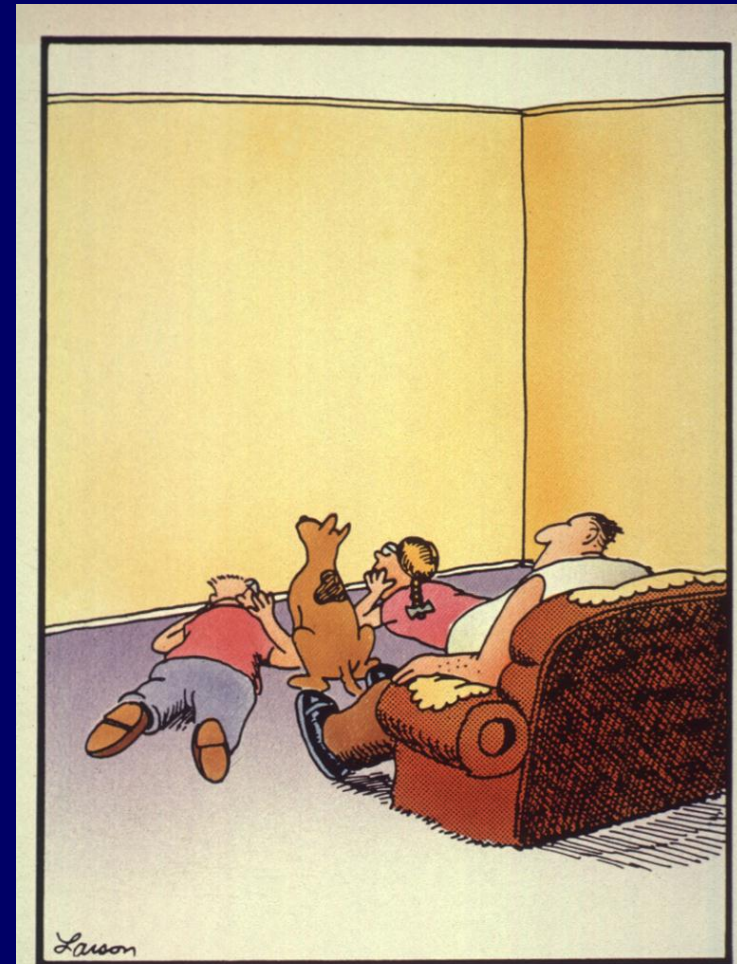
- Parent modelling

Hinkley T Ann J Prev Med 2008

- Screen time  
(TV in bedrooms)

- Sleep

Chen et al Obesity 2008



In the days before television

# WHAT WE CAN DO

## EVIDENCE BASED CLUES

- Infant feeding - breast and bottle
- Infant feeding practices
- Food preferences
- Appetite regulation
- Parenting
- Feeding styles
- TV, physical activity & sleep



## PARENTS' VIEWS

- Felt dismissed
- Made to feel guilty

## PROVIDERS

- Lack of confidence
- Low self efficacy
- Inability to identify obesity
- Paediatricians' BMI



## THE MEDICAL MODEL

# CHALLENGES IN IMPLEMENTING THE EVIDENCE INTO PRACTICE

- Randomised controlled trials
- A universal approach
- How about targeting?
- Putting it together

Healthy Beginnings: Wen LM et al. BMJ 2012  
EMPOWER: Barlow J et al. Child 2010  
BERTIE: Levine RS et al, Public Health 2012  
HENRY: Willis et al, JHND 2012

# PUTTING IT TOGETHER

## THE EVIDENCE

- Parenting skills
- Eating behaviour
- Nutrition
- Physical activity
- Emotional wellbeing



## THE MESSENGER

- Empathy
- Warmth
- Genuineness



## THE APPROACH

- Family Partnership Model
- Reflective practice
- Solution focused strength based



- Training courses for professionals
- HENRY parent groups
- E-learning courses
- HENRY toolkit



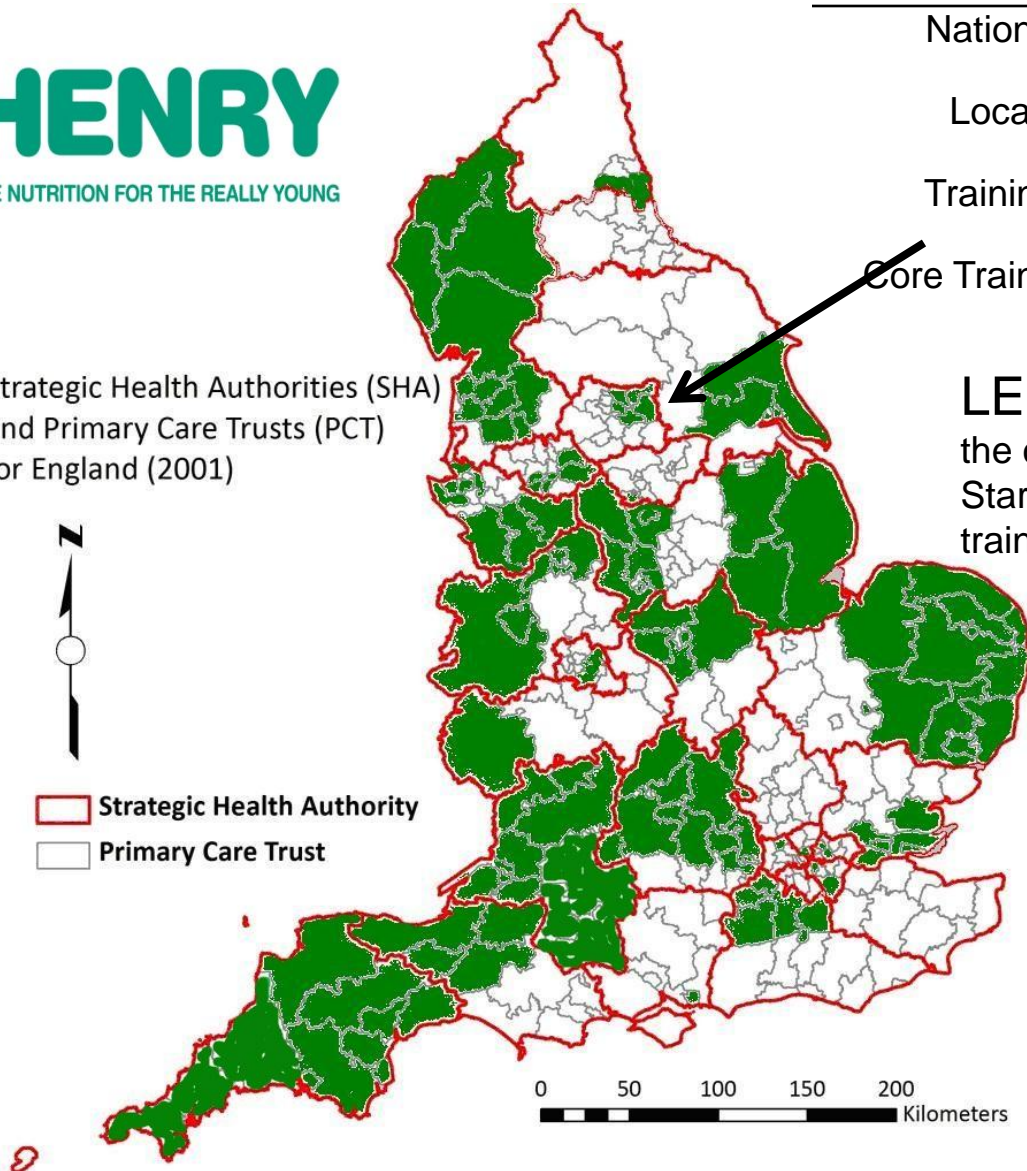


Areas of the UK	54
National trainers	14
Local trainers	26
Training courses	80/year
Core Training attendees	~2500

Strategic Health Authorities (SHA)  
and Primary Care Trusts (PCT)  
for England (2001)



 Strategic Health Authority  
 Primary Care Trust



**LEEDS** –HENRY adopted as key to  
the city obesity strategy. All 60 Sure  
Start Children's Centre teams to be  
trained by 2011

# EVALUATION

- Policy & practice -Children's Centres
- Professional practice and confidence
- Practitioners' personal lives
- Parents



# OPTIMISM..... AND ACKNOWLEDGEMENTS

- CDC, Atlanta, Georgia
- Department of Health, England
- Colleagues in HENRY, EMPOWER & BERTIE

Framework for Action - [www.noo.org.uk/Mary\\_Rudolf](http://www.noo.org.uk/Mary_Rudolf)

HENRY website - [www.HENRY.org.uk](http://www.HENRY.org.uk)

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