The importance of getting it right for our children

Dr Catherine Calderwood
Chief Medical Officer for Scotland
Obstetrician and gynaecologist

22nd September 2015

NHS SCOTLAND

- 5.2 million people
- 1 million children
- £12 billion budget for health
- £3.66 billion for education
- £3.67 billion for justice
- 14 Health Boards
- 8 Support Boards
- Moving towards social care integration

SCOTLAND

Durness
Thurso
Wick
North Sea
Outer Lewis
Hebrides
Ullapool
ATLANTIC
OCEAN
Uig
Elgin
Buckie
Fraserburgh
Peterhead
Inverness
Nairn
Sligachan
3.5 Hours
Aberdeen
Lochboisdale
Loch Baghasdail
Inner
Hebrides
Mallaig
UNITED KINGDOM
Fort William
3.25 Hours
Arbroath
Oban
Perth
Dundee
1.75 Hours
Kirkcaldy
Dunfermline
West Scotland
Greenock
Edinburgh
M8
Berwick-upon-Tweed
Islay
Paisley
Glasgow
Irvine
Glenegedale
Ayr
Newtown St Boswells
1.8 Hours
Hawick
DONEGAL
Coleraine
South
Shields
Dumfries
IRELAND
NORTHERN
IRELAND
Trostan
1.5 Hours
Newcastle upon Tyne
Lifford
Stranraer
Carlisle
ENGLAND
Hartlepool
Newtownabbey
Penrith
Durham
© 2001 Microsoft Corp. All rights reserved.

OCTOBER 4, 2010
Environment Special:
The oceans—why 70% of our planet is in danger
The Facebook Movie:
The secret history of social networking
TIME
How the first nine months shape the rest of your life
The new science of fetal origins
BY ANNIE MURPHY PAUL
www.time.com

Developmental origins of adult disease

- Cancer
- Cardiovascular disease
- Allergies
- Asthma
- Hypertension
- Diabetes
- Obesity
- Mental illness
- Arthritis
- Osteoporosis
- Cognitive decline

The Economist | World politics | Business & finance | Economics | Science & technology | Culture

Prenatal health and life outcomes

Unequal beginnings

A child's long-term well-being is more profoundly shaped by influences in pregnancy than used to be realised

Apr 4th 2015 | From the print edition

Timekeeper | Like 2.3k | Tweet 131

http://www.economist.com/news

Health Inequalities

The Projected Prevalence of Obesity in Primary 1 Children in Scotland for Scottish Index of Multiple Deprivation Quintiles 1 & 5 compared to Scotland as a whole: school years 2001/02 to 2019/20

Social circumstances and health

Each stop on the Argyll line travelling East represents a drop of 1.7 years in male life expectancy

Life expectancy data refers to 2001-5 and was extracted from the GCPH community health and well-being profiles. Adapted from the SPT travel map by Gerry McCartney.

Early BRAIN DEVELOPMENT

Brains are built over time, from the bottom up.

In the first few years of life, 700 new neural connections are formed every second. After this period of rapid proliferation, connections are reduced through a process called pruning.

Connections proliferate and prune in a prescribed order, with later,
more complex brain circuits built upon earlier, simpler circuits.

Center on the Developing Child
HARVARD UNIVERSITY

Human Brain Development

Neural Connections for Different Functions Develop Sequentially

Source: C.A. Nelson (2000)

CORE CONCEPTS IN THE SCIENCE OF EARLY CHILDHOOD DEVELOPMENT

The Ability to Change Brains and Behavior Decreases Over Time

7

As the maturing brain becomes more specialized to assume more complex functions, it is less capable of reorganizing and adapting. For example, by the first year, the parts of the brain that differentiate vocal sounds are becoming specialized to the language the baby has been exposed to and are already starting to lose the ability to recognize important sound distinctions found in other languages. As the brain prunes away the circuits that are not used, those that are used become stronger and increasingly difficult to alter over time. Declining plasticity means it's easier and more effective to influence a baby's developing brain architecture than it is to rewire parts of its circuitry in the adult years. In other words, we can "pay now" by ensuring positive conditions for healthy development, or "pay more later" in the form of costly remediation, health care, mental health services, and increased rates of incarceration. *Graph Source: P. Levitt (2009)*

2 The interactive influences of genes and experience shape the

4 Cognitive, emotional, and social capacities are inextricably intertwined throughout the life course. The brain is a highly interrelated organ, and its multiple functions operate in a richly coordinated fashion. Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they are the bricks

3 The brain's capacity for change decreases with age. The brain is most flexible, or "plastic," early in life

5 Toxic stress damages developing brain architecture, which can lead to life-long problems in learning, behavior, and physical and mental health.

For more information, see "The Science of Early Childhood Development" and the Working Paper series from the National Scientific Council on the Developing Child.
www.developingchild.harvard.edu/library/

Child Development –nature and nurture

- First 1000 days critical – prenatal and postnatal enviroment
- Effects of maltreatment on development persist across the life course
- New genetics suggest certain genotypes are a risk factor in adversity , but also confer resilience

Maternity Care Quality Improvement Collaborative

- ***Reduce the avoidable proportion of stillbirths and neonatal mortality by 15%***
- *To offer all women CO monitoring at the booking for antenatal care appointment*
- *To refer 90% of women who have raised CO levels or who are smokers to smoking cessation services.*
- *To provide a tailored package of care to all women who continue to smoke during pregnancy*

Maternal smoking

- **18.1%** of pregnant women reported **smoking** at booking
- **32%** in the most deprived
- 6% in least deprived
- Affects all aspects of pregnancy and beyond: conception, miscarriage, congenital anomalies, growth restriction, stillbirth, cot death

ISD 2009

Antenatal smoking cessation

Cochrane review Lumley et al 2009

Smoking cessation interventions work

- Reduce the proportion of women who continue to smoke in late pregnancy by 6% (combined effect of interventions)
- Reduce low birth weight and preterm birth by 15%

P' Chart for Quarterly Stillbirth Rate in Scotland
2004 (Qtr 1) to 2015 (Qtr 1)

Annual Stillbirth Rate per 1,000 births, Scotland
(Baseline Median based on last 12 years up to end-2010)

OUTCOMES and QUALITY

- Data
- Data
- Data
- Data
- Data

Early Years – Shared Vision

getting it right for every child in Lanarkshire

To make Scotland the best place in the world to grow up in by improving outcomes and reducing inequalities for all babies, children, mothers, fathers and families across Scotland, to ensure that all children have the best start in life and are ready to succeed.

Early Years Collaborative

- Global Aim :Scotland is the best place to grow up and the best place in the world to bring up children
- First ever national , multi agency Quality Improvement Programme led by Community Planning Partnerships

Workstreams

playtalkread

Cumulative period – 1st April 2013 to 31st March 2014

Source: Bus exit survey

Digital

103,389

Visits to the PlayTalkRead Website

63.52% Increase on previous year (1st April 2012 – 31st March 2013)

76,486	Unique Visits
359,737	Page Views
28%	Return Visits
01:46	Avg. Visit Duration
17,931	Email unique opens

3,102 Registrations to Website

8.35% Increase on previous year (1st April 2012 – 31st March 2013)

7,411 New Facebook Fans
(11,353 total)

Key Partners

(1st Sept 2013 – 31st March 2014)

The following partnerships are added value and NOT paid for. They are 'added value' promotional platforms, designed to extend our campaign reach

40+ stakeholder organisations running partnership activity, including local authorities and charities

Activity & Results

Stakeholder engagement – 40+ stakeholders have received PTR web buttons and **10,000 pieces of PTR** collateral has been distributed

SBT + Random House donated **210 books** for competition giveaways – over **600 entrants** to date – Book value £1,715

Scottish Book Trust – distribution of **13,000 PTR** bookmarks to all **32** Book Week Scotland Bookbug events

Baby Loves Disco – competition & event presence **63** comp entries & **20** website registrations

Bounty Partnership – email to 97,681 parents, with a **1,702 clicks through** to the PTR website

Bus Competition – 554 eligible entries. TNS completed **171 interviews** in total

Online Advertising & PPC

Site landings (14th Oct 2013 - 31st Mar 2014)

28,062 Facebook (All formats)

21,390 PPC **5,564** Display

Bus Tour

38,765 visitors

(16,054 adults & 22,711 children)

459	Locations on 237 dates in 32 local authorities
71%	'I will play with my child more after today's visit'
71%	'I will talk with my child more after today's visit'
71%	'I will read with my child more after today's visit'

PR

(1st Sept 2013 – 31st March 2014)

Pieces of coverage: 224

Circulation: **1,641,142**

Reach: **10,403,565**

Key message inclusion

Ministerial quote	73%	Dates of bus	74%
Website url	68%	Location of bus	90%
Facebook url	29%	Time bus visiting	70%

National Outcomes

- Our children have the best start in life and are ready to succeed.
- We have improved the life chances for children, young people and families at risk.
- Our young people are successful learners, confident individuals, effective contributors and responsible citizens.

Alfie

- *‘I like my bedtime story because it helps me to dream’*

The benefits of having a laugh with your little one

The average 3 year old laughs 300 times a day

Laughter improves your little one's quality of sleep

Your child is 30x more likely to laugh at something when they are with you.

Happiness and laughter is contagious - just watch a baby in a full belly laugh

HA HA HA HA HA

Babies learn to laugh before they learn to talk, crawl, or walk.

The more you and your little one LAUGH the more likely you are to LIVE LONGER

1 minute of intense laughter sets your heart at the same level as 10 minutes

Here is Edward Bear coming downstairs now, bump, bump, bump, on the back of his head, behind Christopher Robin.

It is, as far as he knows, the only way of coming downstairs, but sometimes he feels that there really is another way…if only he could stop bumping for a moment and think of it!

A. A. Milne