

# To Vax or Not to Vax

Prof  
Andreas Suhrbier

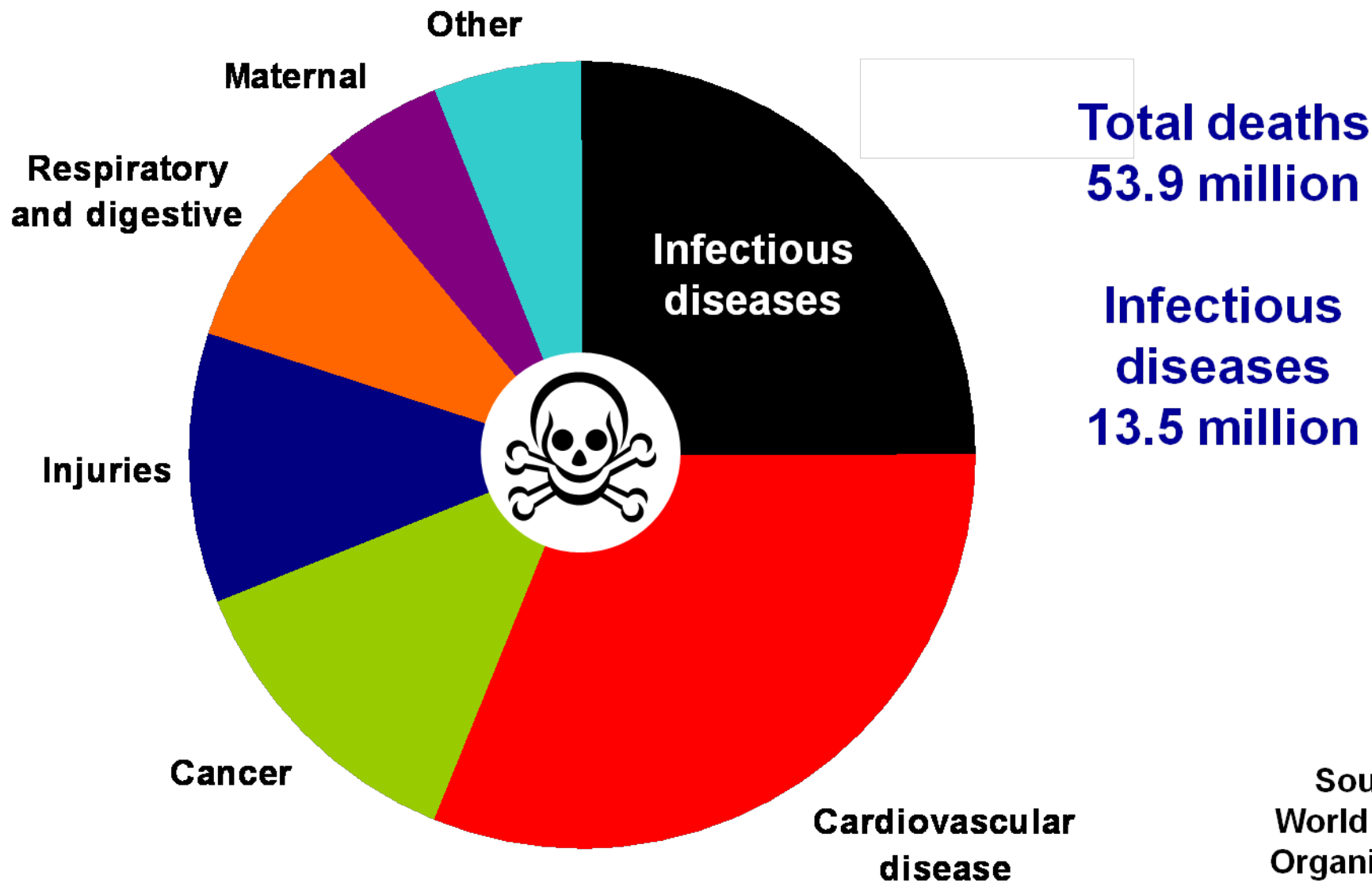
Queensland Institute of Medical Research

Vaccines give  
your immune  
system the  
intell about the  
bad guys.  
Immune system  
wins (you live)

Your immune system remembers the intell

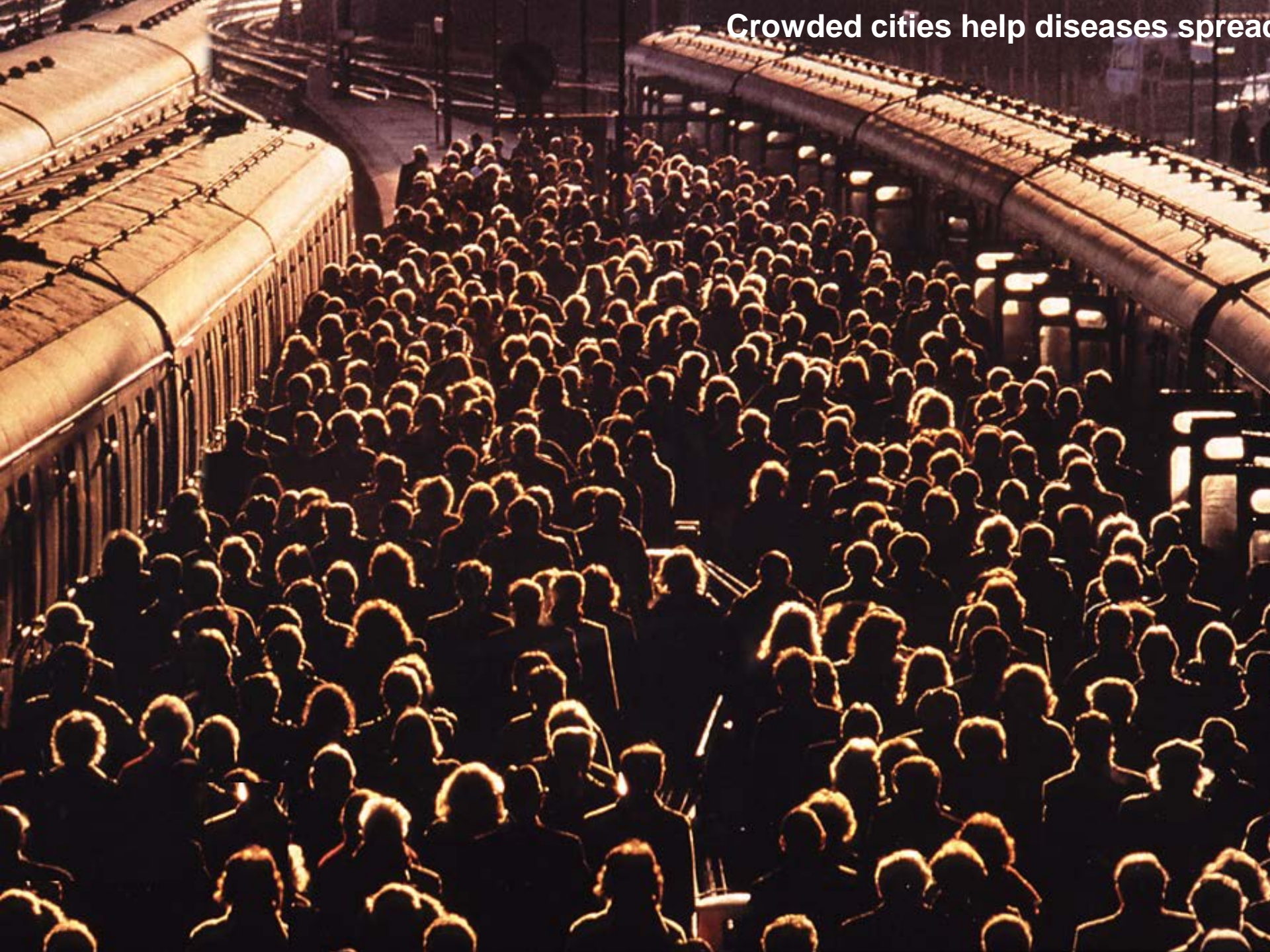


# Infectious diseases kill millions



Source:  
World Health  
Organisation,  
year 2000

Crowded cities help diseases spread

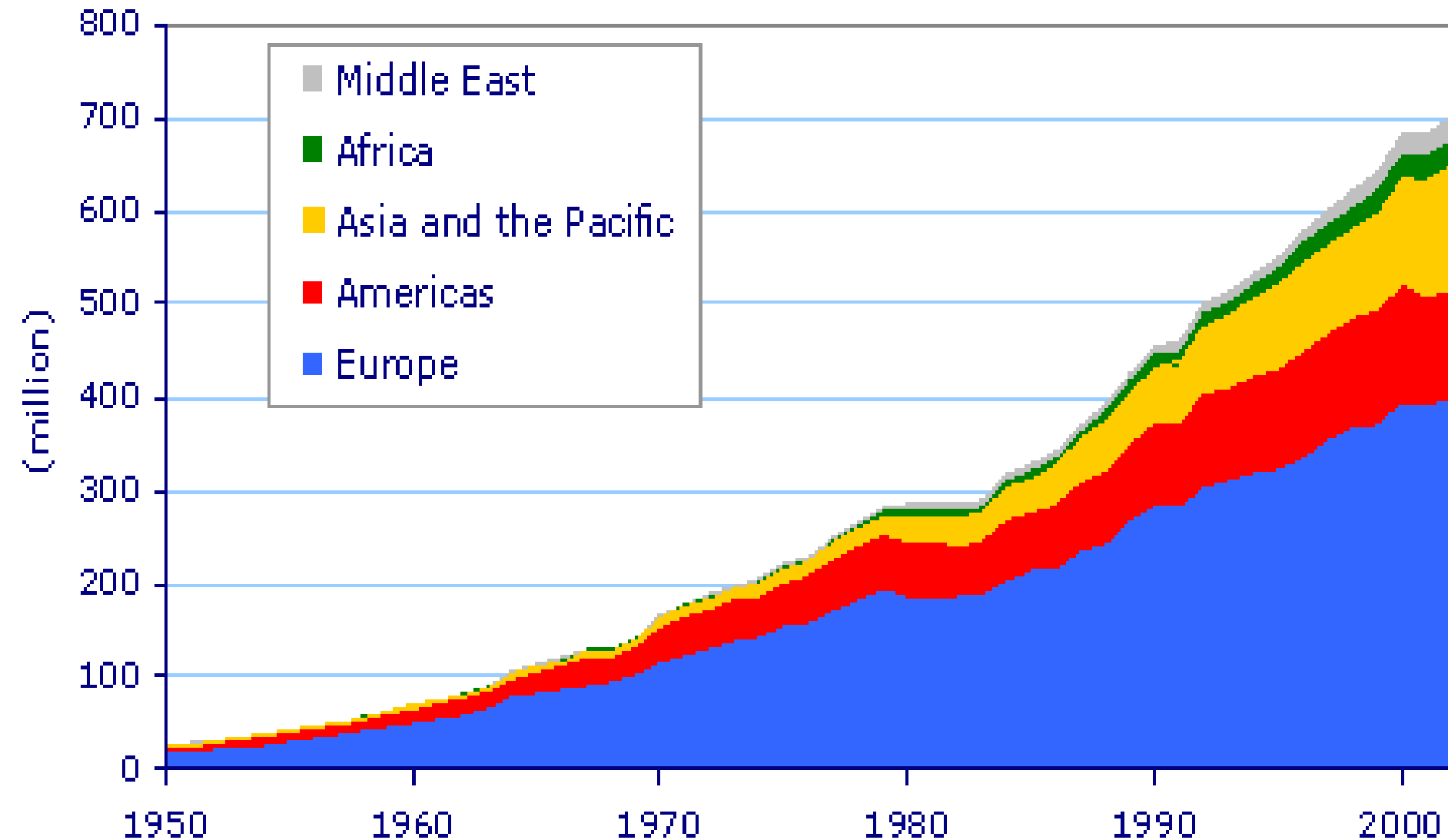








## International Tourist Arrivals, 1950-2005\*



**Air travel now allows disease to be spread globally and quickly.  
SARS spread to 30 countries in a few months: 8,000 cases, 774 deaths**

# SMALL POX OUTBREAK !

.....NOT CONTAINED !

## 1972 outbreak in Yugoslavia

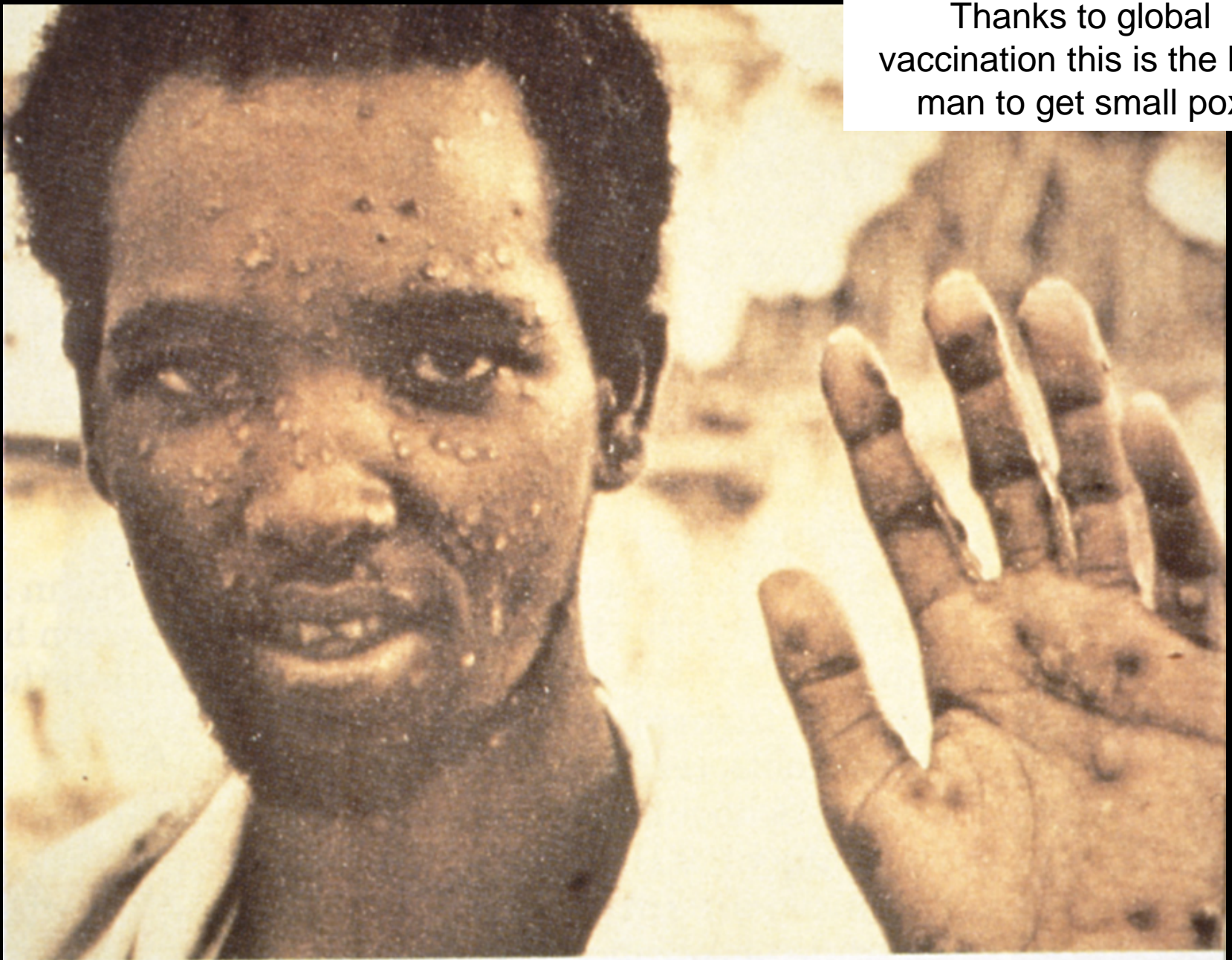
175 cases, 35 dead.

Infected people travelling all over the country.

## THE APPROPRIATE RESPONSE !

- Yugoslavia closed its borders.
- Forced vaccination of 19 million people.
- Forced quarantine of 10,000 people for 2 weeks or more.

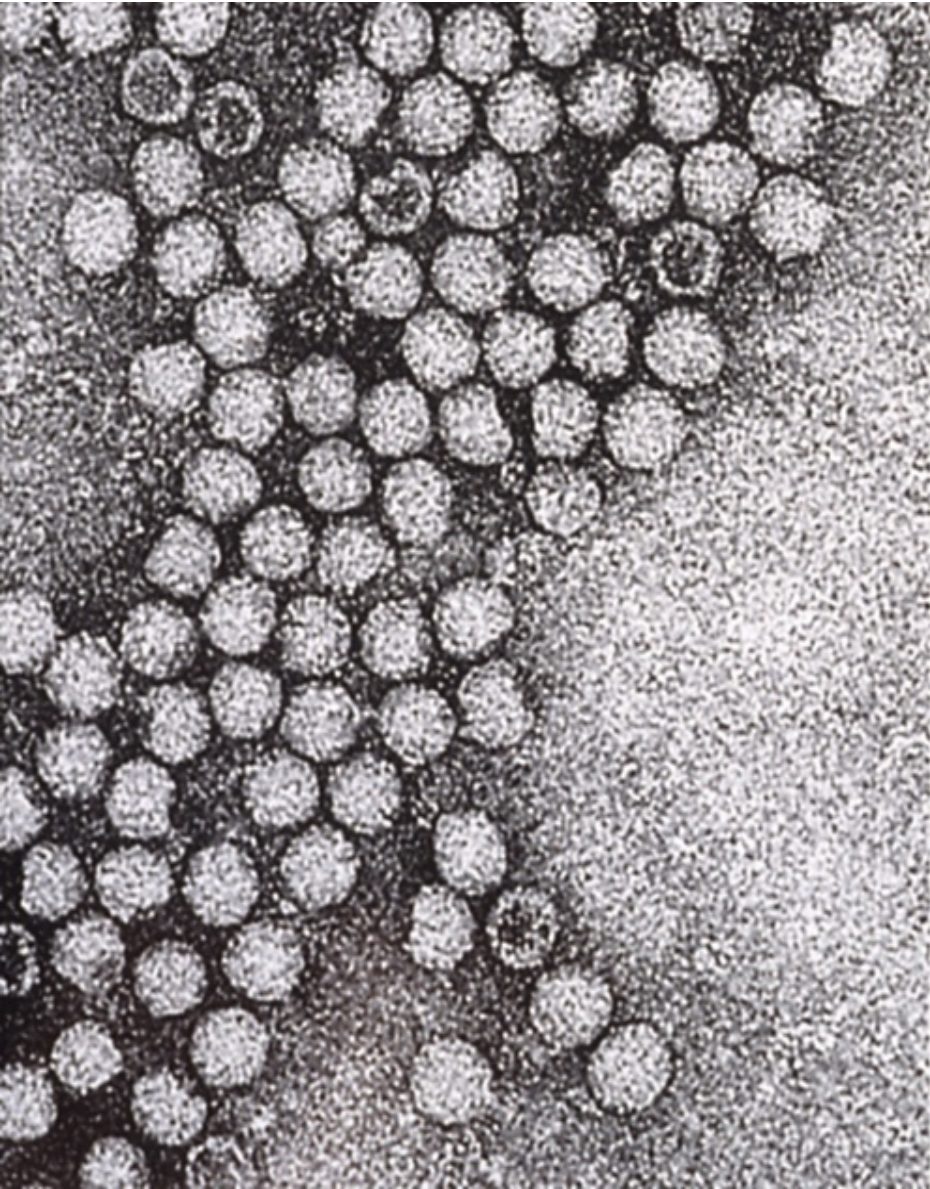
Thanks to global  
vaccination this is the last  
man to get small pox



**Figure 4. The last recorded case of endemic smallpox (Ali Maow Maalin, Somalia, October 1977).**



Polio virus used to cripple millions, thanks to vaccination this disease is nearly gone from the world. Has saved more money than the total global spend on medical research.







## VACCINE

## VACCINE SIDE EFFECTS

## MAJOR EFFECTS OF DISEASE

**DIPHTHERIA**

- 1 in 10 inflammation or fever.

1 in 15 die

**TETANUS**

- Occasionally booster gives swelling for a few days

3 in 100 die

**PERTUSSIS**

1 in 200 <6m die

**MEASLES**

- 1 in 10 discomfort, local inflammation or fever.

1/10 Hospitalised  
1/15 pneumonia,  
1/1000 encephalitis,  
4/10,000 brain damage,  
1/10,000 die

**MUMPS**

- 1 in 20 swollen glands stiff neck or joint pains.

1/200 encephalitis, some sterility & deafness

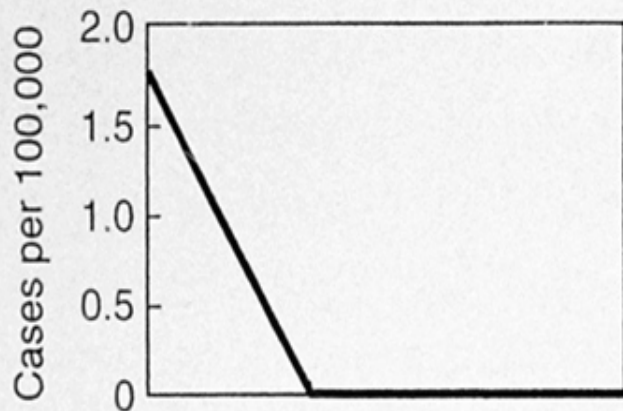
**RUBELLA**

- 1 in 20 rash or fever.

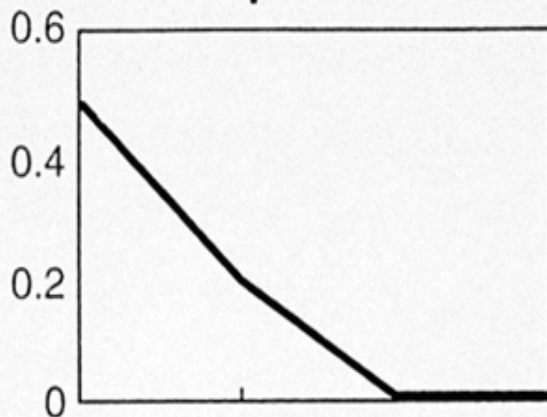
90% of infections during pregnancy result in major birth defects (eg deaf blind heart)

Wherever you look vaccination has a major impact on disease incidence

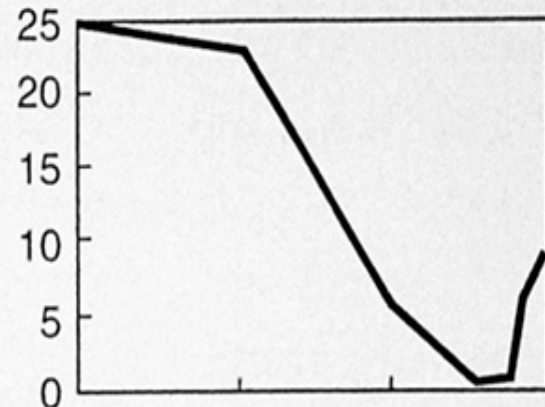
**Poliomyelitis**



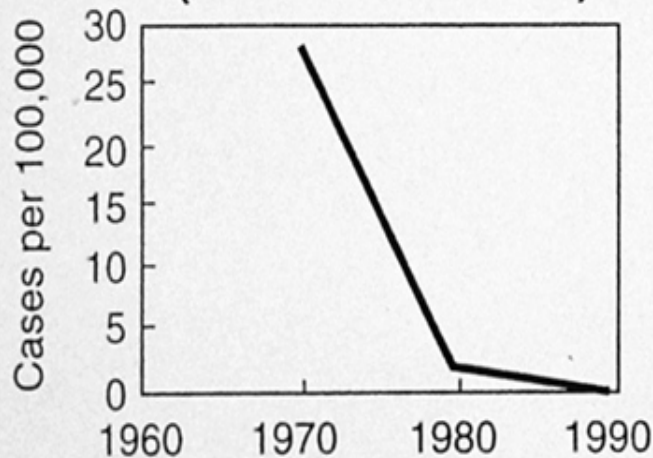
**Diphtheria**



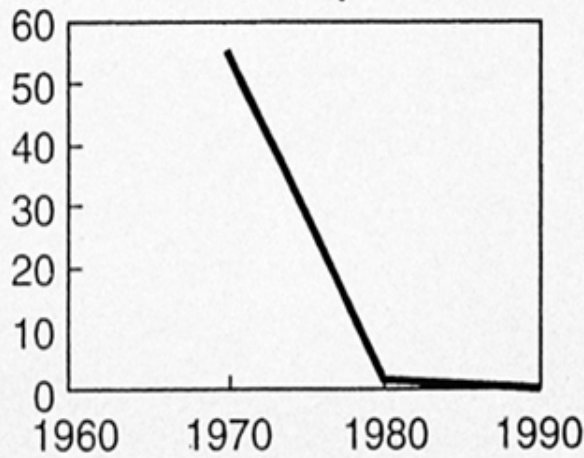
**Measles**



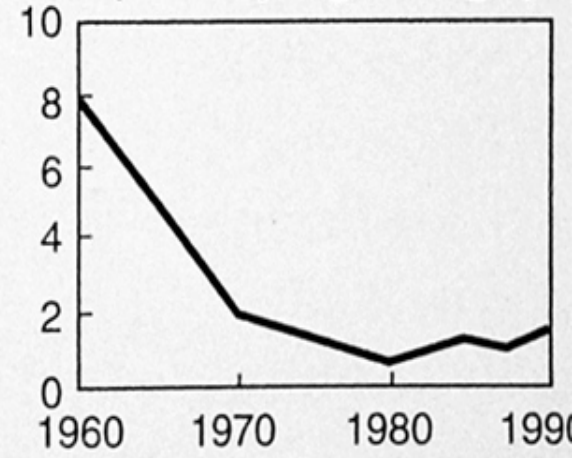
**Rubella  
(German Measles)**



**Mumps**



**Pertussis  
(Whooping Cough)**



Incidence of vaccine preventable infectious diseases in the US. From NY Academy of Sciences page 13, *Excellence in the future of Health Care, Public Health and Biomedical Science* (1994).



# COST PER LIFE YEAR SAVED

Initiative	Cost per life-year saved (US\$)
Childhood immunization	<0 (cost saving)
Pneumococcal vaccine for seniors	<0 (cost saving)
Seat belts	69
Universal flu vaccination	140
Breast cancer screening (women at 50)	810
Home smoke detectors	920
Drinking water chlorination	3,100
Hypertension screening (men>60)	11,000
Home dialysis	20,000
Neonatal intensive care for low birth weight infants	270,000

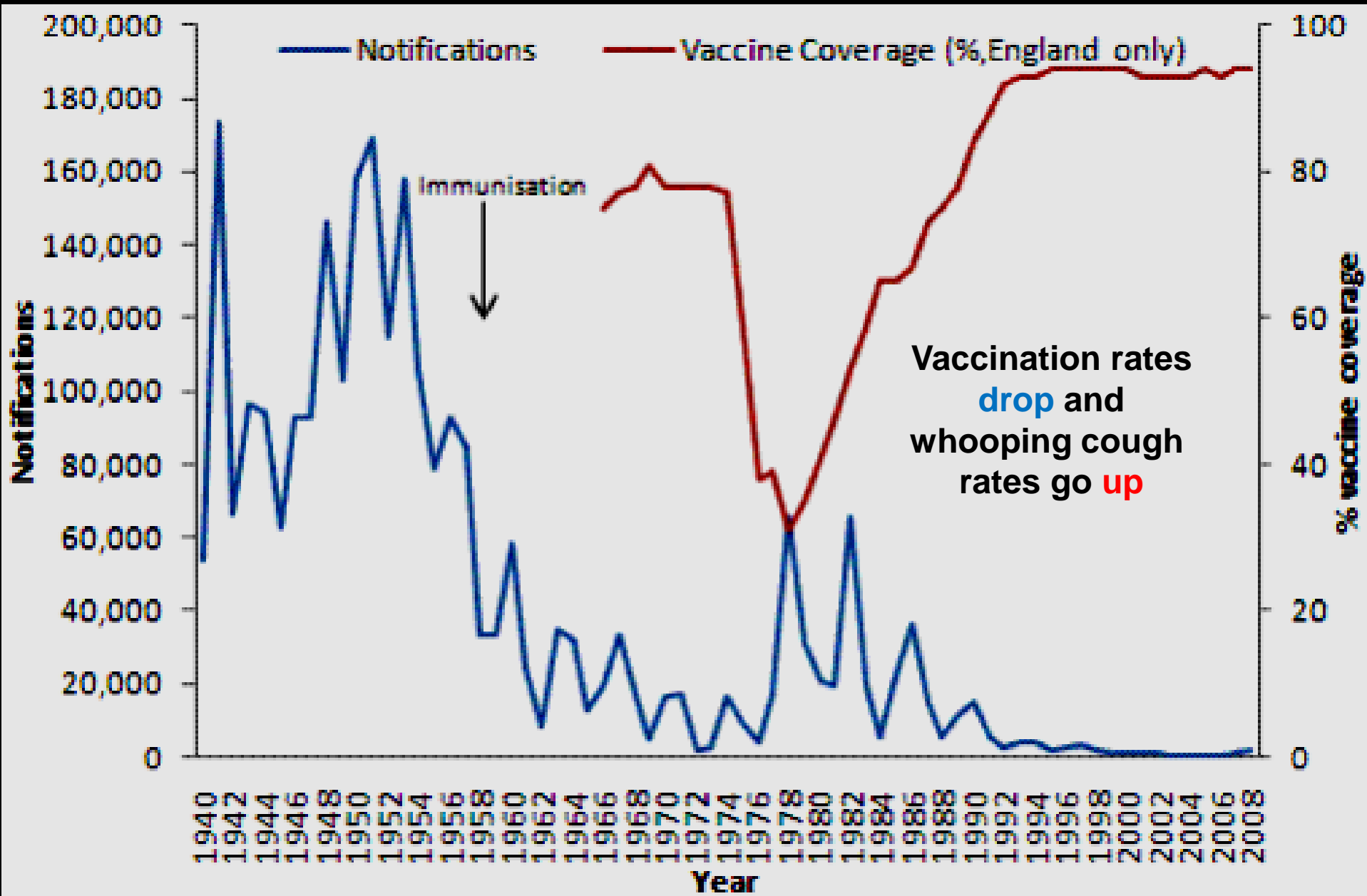
\* Canadian Public Health Association, *The Value of Immunization in the Future of Canada's Health System*, 2001, [www.immunize.cpha.ca](http://www.immunize.cpha.ca)  
 Ehreth, J, *The Value of Vaccines: A Global Perspective*, 2001

Harvard Center for Risk Analysis, *Comprehensive League Table of Cost-Utility*

*Analyses Published Through 1997 with Ratios Converted to 1998 US Dollars, Harvard School of Public Health,*

Bioweapons attack 5 deaths US\$ ≈100 billion spent so far

# Whooping cough notifications and vaccine coverage, England and Wales, 1940-2008 (Health Projection Agency UK)



# THE LANCET 1998

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and  
pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, M M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson,  
P Harvey, A Valentine, S F Davies, J A Walker-Smith

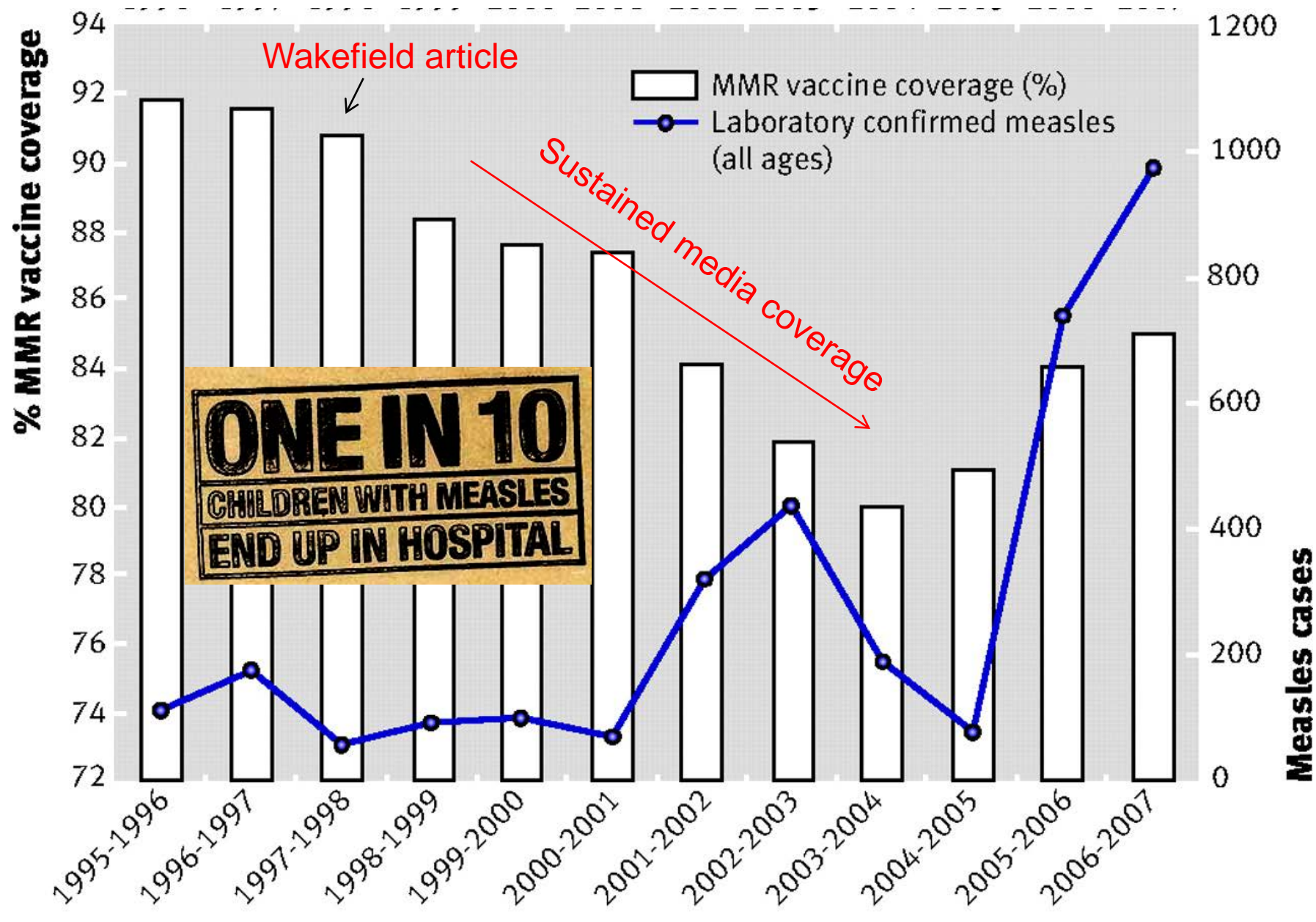
A study of 12  
children

9 children claimed to  
have developed  
autism within 2  
weeks of MMR  
vaccination





# As MMR vaccine coverage drops measles cases rise



# Wakefield has been struck off the medical register

- 4 counts of dishonesty - money, research & statements.
- 9 counts of mistreating developmentally challenged children: causing invasive "high-risk" research to be carried out without ethical approval and against their best clinical interests;
- 3 rulings said that he caused children to undergo lumbar punctures without clinical reason;
- 3 rulings said he had breached his employment contract at the hospital's medical school, which forbade him from involvement in patient care.

**General Medical Council; Determination on Serious Professional Misconduct (SPM) and sanction: 2010.  
Re: Dr Andrew Jeremy WAKEFIELD.**

# **THE DATA WAS MADE UP**

- **3 of 9 children reported with regressive autism did not have autism diagnosis at all. Only 1 child clearly had regressive autism.**
- **All 12 children were NOT "previously normal" as claimed, 5 had pre-existing developmental concerns.**
- **The period between vaccination and autism published in the paper did not match Hospital records.**
- **In 9 cases histopathology results were retrospectively changed by Wakefield.**
- **3 children were excluded from the study as the clinical history failed to support the hypothesis.**



## **THE MONEY TRIAL ; Brian Deer (Sunday Times)**

**JABS; solicitor Richard Barr pays Wakefield £150 /h plus £50,000 to find a link between vaccination and autism to help in law suits.**

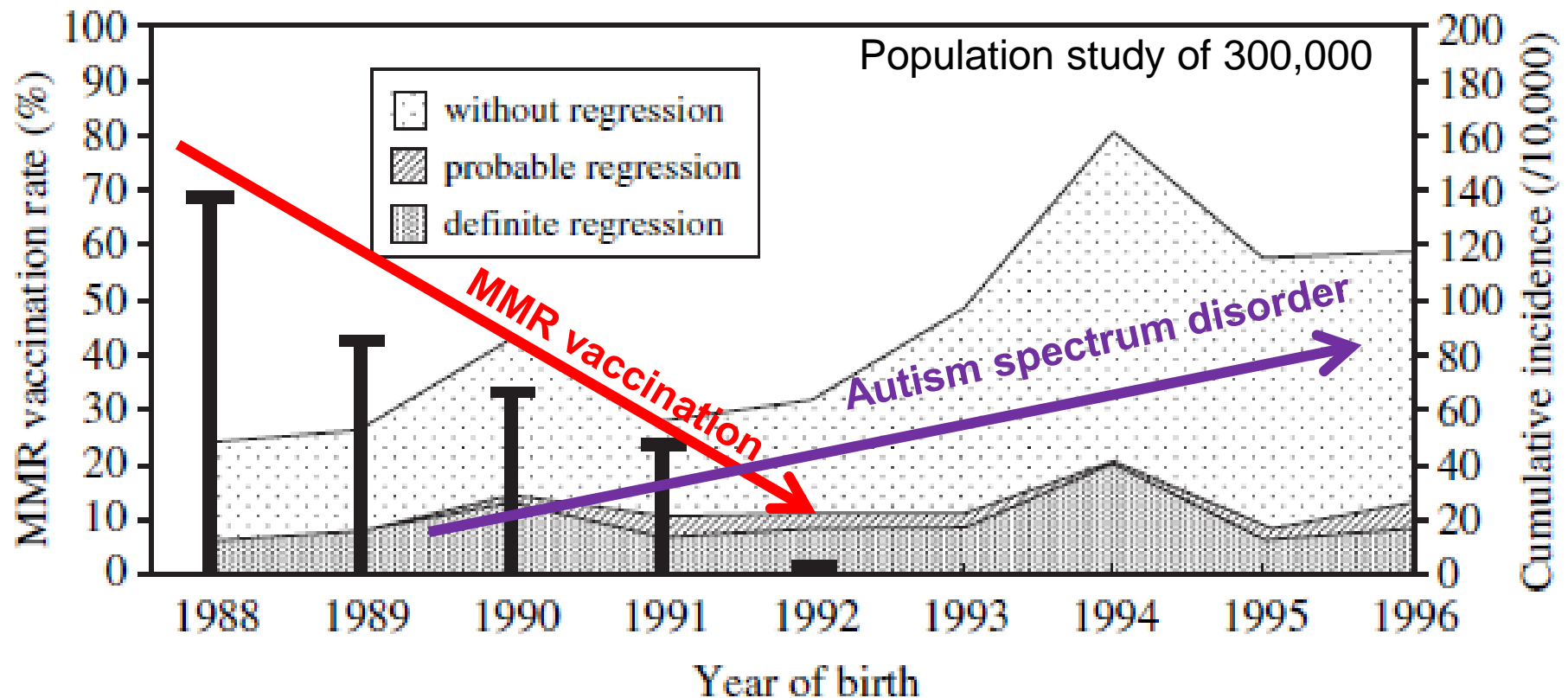
**Wakefield receives £435,643 from lawyers.**

**Wakefield patents single shot measles vaccine claiming it to be safer than MMR.**

**Unigenetics (Wakefield is director) awarded £800,000 by Legal Aid to perform tests**

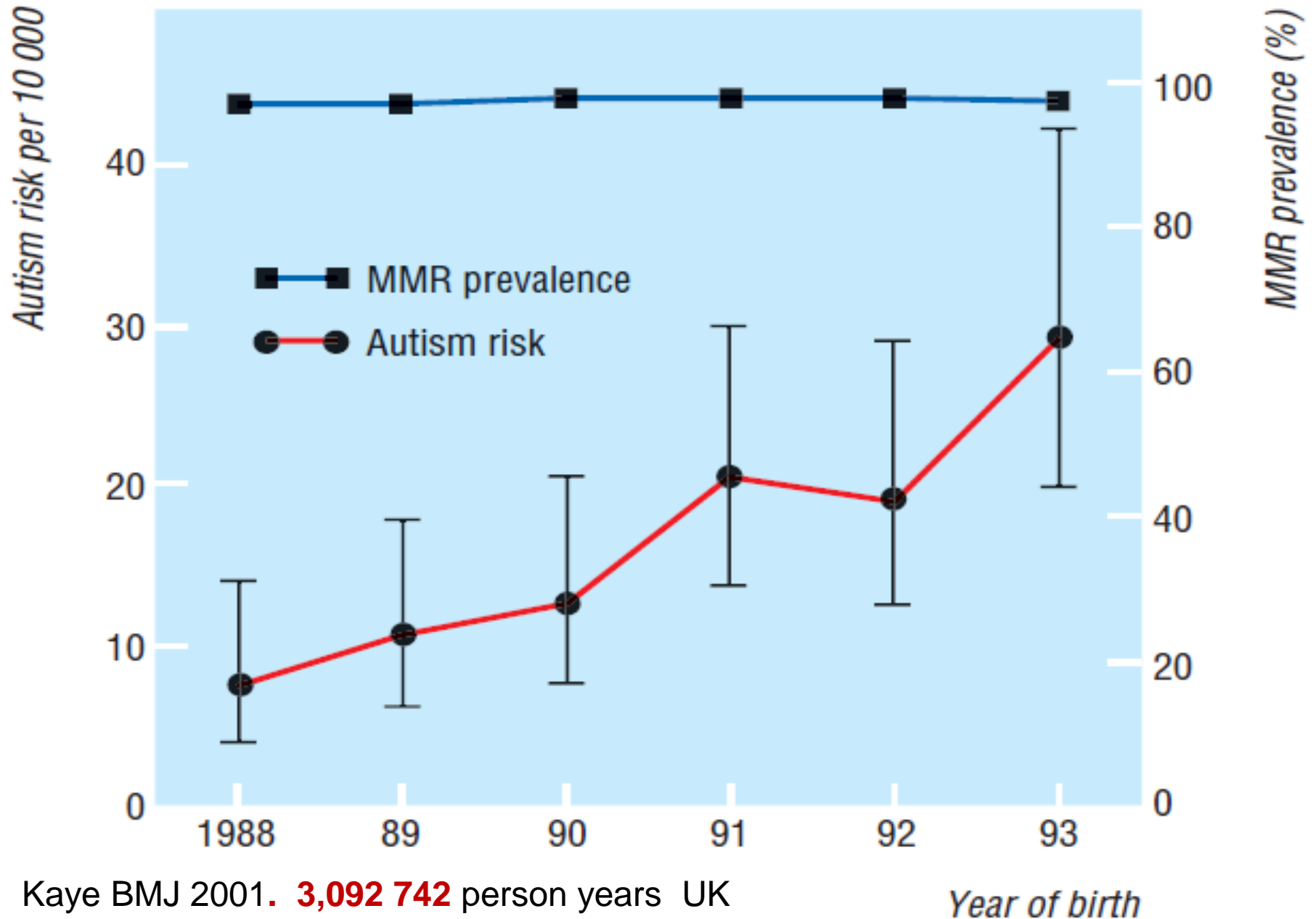
**Carmel Healthcare “autistic enterocolitis” diagnostic – predicted revenue £ 28m**

Due to litigation Japan stopped MMR use,  
but autism rates still increased  
at the same rate as elsewhere



**No effect of MMR withdrawal on the incidence of autism: a total population study.** Honda et al., J Child Psychology & Psychiatry 46:6 (2005), pp 572–579

## MMR vaccination rates remained the same but autism still rose





# The New England Journal of Medicine

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## A POPULATION-BASED STUDY OF MEASLES, MUMPS, AND RUBELLA VACCINATION AND AUTISM

KREESTEN MELDGAARD MADSEN, M.D., ANDERS HVIID, M.Sc., MOGENS VESTERGAARD, M.D., DIANA SCHENDEL, Ph.D.,  
JAN WOHLFAHRT, M.Sc., POUL THORSEN, M.D., JØRN OLSEN, M.D., AND MADS MELBYE, M.D.

## A study of 537,303 children

*Conclusions* This study provides strong evidence against the hypothesis that MMR vaccination causes autism. (N Engl J Med 2002;347:1477-82.)

See also NCIRS Fact Sheet, MMR vaccine 2009.



[http://www.mumsnet.com/Talk/in\\_the\\_news/970786-Andrew-Wakefield-Struck-off/AllOnOnePage](http://www.mumsnet.com/Talk/in_the_news/970786-Andrew-Wakefield-Struck-off/AllOnOnePage)

[cyberseraphim](#) Mon 24-May-10 10:48:12

As the parent of an autistic child, I really resent the time and money wasted disproving what was obvious nonsense in the first place ! Why can money not be spent **helping** autistic children learn and develop? We should stick to importing crazy soap opera plot lines from the US not crazy theories about vaccinations.

The Wakefield story has seen vast sums of precious research dollars diverted from finding out what autism is really caused by to disproving lawyer funded lies

**Autism becomes apparent around the same time children receive vaccinations**

**However temporal association does not mean causation**

### **Example 1**

As ice cream sales increase, the rate of drowning deaths increase.

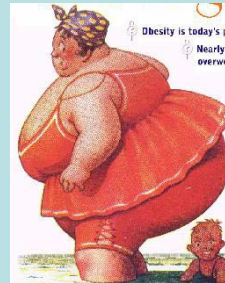
Therefore, ice cream causes drowning.



### **Example 2**

Since the 1950s, both the atmospheric CO2 level and obesity levels have increased sharply.

Hence, atmospheric CO2 causes obesity.



### **Example 3**

With a decrease in the number of pirates, there has been an increase in global warming over the same period.

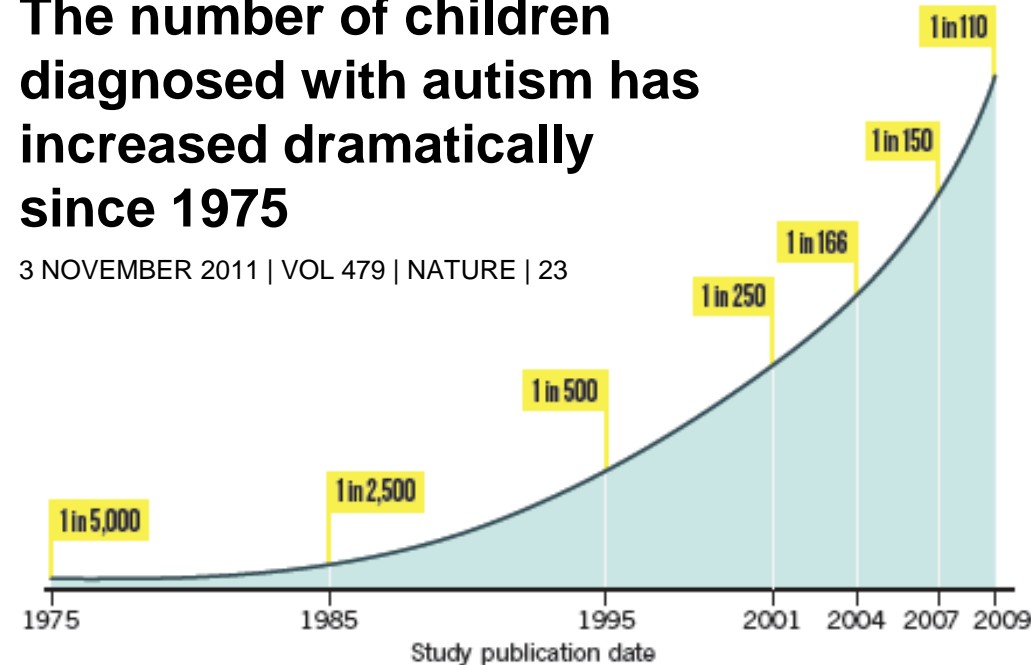
Therefore, global warming is caused by a lack of pirates.





# The number of children diagnosed with autism has increased dramatically since 1975

3 NOVEMBER 2011 | VOL 479 | NATURE | 23



## Autism spectrum disorder

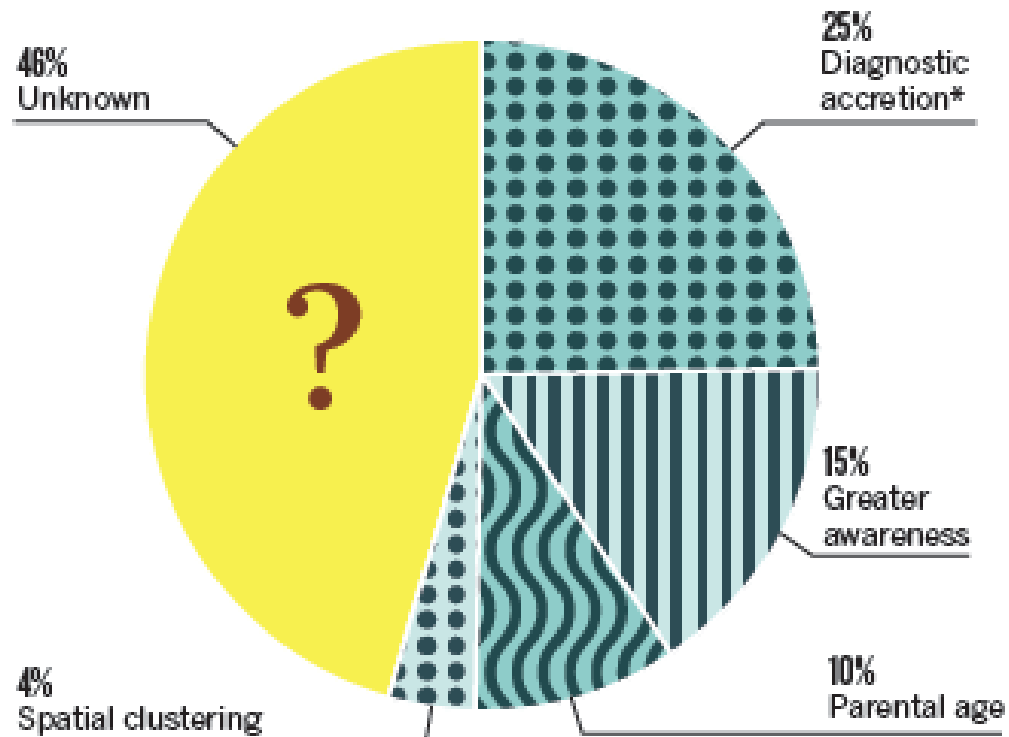
- Autistic disorder
- Asperger's syndrome
- Childhood disintegrative disorder
- Rett syndrome
- Pervasive Developmental Disorder not Otherwise Specified.

There is a strong genetic component in autism. 5-10 genes, possibly more involved

ncbi; 571 scientific peer reviewed publications for autism & vaccines (*vast majority do not show a link*)

ncbi; 18,872 papers on autism

1 paper does not represent the truth



# THE AUSTRALIAN VACCINATION NETWORK (AVN)

**Love them.  
Protect them.  
Never inject them.**



[www.avn.org.au](http://www.avn.org.au)

**WARNING**

This woman promotes misinformation about vaccination and health.

**Ignore her.  
Vaccinate.**



Meryl Dorey

VACCINATION SAVES LIVES

**STOP THE  
AUSTRALIAN VACCINATION NETWORK**

[www.StopAVN.com](http://www.StopAVN.com)



Woodford 2011 Debate

Australian Vaccination Network's ad pulled by American Airlines after 'backlash'

# **PUBLIC WARNING ABOUT THE AUSTRALIAN VACCINATION NETWORK (AVN)**

**26 July 2010 by the Health Care Complaints Commission under section 94A of the Health Care Complaints Act 1993**

The HCCC investigation established that the AVN website: provides information that is solely anti-vaccination & contains information that is incorrect and misleading

Commission recommended to the AVN that it should include a statement in a prominent position on its website to the following effect: The AVN's purpose is to provide information against vaccination, in order to balance what it believes is the substantial amount of pro-vaccination information available elsewhere.

The information provided by the AVN should not be read as medical advice.

The AVN's failure to include a notice on its website of the nature recommended by the Commission may result improperly informed decisions about whether or not to vaccinate, and therefore poses a risk to public health and safety.

Further Information  
Mr Kim Swan, the Executive Officer of the Health Care Complaints Commission, on 9219 7483 or send an email to [media@hccc.nsw.gov.au](mailto:media@hccc.nsw.gov.au).

On 14 October 2010, **AVN's right to fundraise was stripped** from it by the New South Wales Office of Liquor, Gaming and Racing, stating that its appeals had "not been conducted in good faith for charitable purposes".



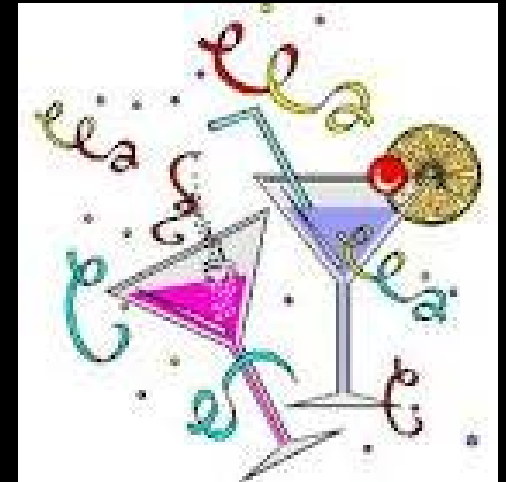
The AVN appealed to the NSW Supreme Court against the HCCC and OLGR findings.

In February 2012, the Court ruled that the HCCC did not have the power to investigate the particular complaints that had resulted in the public warning.

Key issue; HCCC has jurisdiction health care providers, not over providers of health care misinformation

**April 2012 AVN's charity licence reinstated**

AVN announces victory against HCCC



Easy to say

**SUPREME COURT AGREES  
VACCINATION IS DANGEROUS !**

**Seat belts for children are mandatory**

**It is illegal to withhold education  
from children**

**It is illegal to withhold medical care  
from children**

It is legal not to vaccinate children

It is legal to promote infection of children  
(measles parties)

It is legal to facilitate spread of vaccine-  
preventable disease to vulnerable children  
who, for medical reasons, cannot be  
vaccinated or who have compromised  
immune systems (eg transplant recipients)



# Judge orders parents to vaccinate, kids rights vs parents rights

*May 19, 2012* Brisbane Times, Amy Remeikis.

Brisbane Supreme Court Justice (Jean Dalton) ordered a mother and father take their newborn baby to hospital for urgent hepatitis B injections, despite the parents' opposition to vaccinations.

The baby had a 20 per cent chance of being infected as the mother was chronically infected.

If the baby was infected, it was almost certain to develop a chronic infection and would be at risk of cancer and liver disease.

The parents opposed the application on the grounds they did not agree with vaccination because of religious beliefs, and father also had philosophical concerns about the financial agendas of pharmaceutical companies in distributing these drugs.

(<http://www.brisbanetimes.com.au/queensland/kids-rights-vs-parents-rights-its-a-fine-line-20120518-1yvc6.html>)

*Jane Hansen* From: [The Sunday Telegraph](#) June 24, 2012 12:00AM

From July 1 families who fail to vaccinate children in line with the four-year immunisation schedule will lose Family Tax Benefit Part A payments totalling \$2100 over three years. The parents of 23,405 children have already lost subsidies and rebates for failing to vaccinate children.



## The growth of the ant-vaccination movement - WHY?

# Post modernism

- Suspicion towards science, authority, government, media
- Decreased trust in “experts” “statistics” “evidence”
- Everyone has the right to be an expert
- In this era of vast amounts of information - all views are valid
- More information gathering via internet and social media

32% of YouTube immunization videos opposed vaccination

43% of MySpace blogs on HPV immunization were negative

NaturalNews.com,  
Mercola.com  
Mothering.com

Very dubious info. on vaccines

Vaccine 30 (2012) 3778– 3789



## The growth of the ant-vaccination movement - WHY?

### Someone is to blame

- The tragedy of damaged children has to be someone's fault.
- The adversarial legal system (eg UK, USA, Australia as opposed to Inquisitorial system) often supports the process.
- Pharmaceutical industry is an easy target (self serving, fat cats in league with government and the medical profession)



### An affront to motherhood (most anti-vaxxers are women)

- How dare the government tell me how to raise my child !
- Women's self empowerment extended to
  - mum always knows best,
  - do what feels right,
  - natural things are best,
  - wisdom comes from loving



## The growth of the ant-vaccination movement - WHY?

Failures of the pro-vaccine lobby

# We have forgotten Aristotle

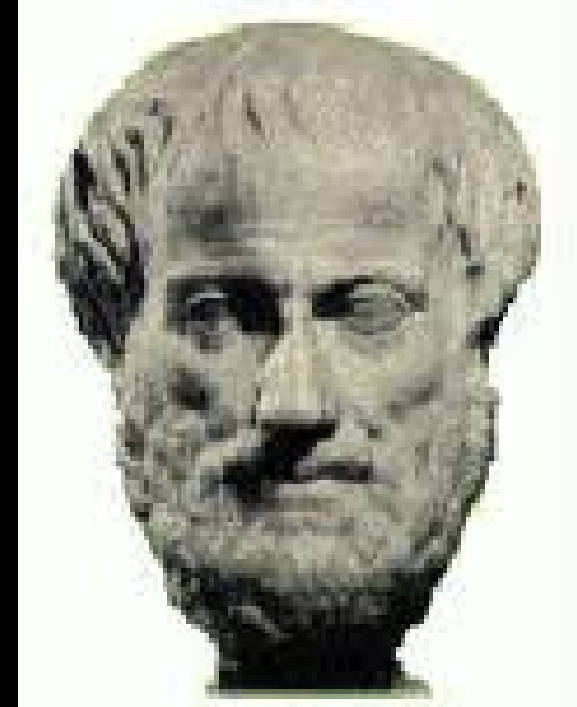
To win an argument you need LOGOS, PATHOS, ETHOS

**LOGOS** – (Logical) means persuading by the use of reasoning; your argument must be logical and evidence based.

**PATHOS** – (Emotional) persuading by appealing to the listener's emotions.

**ETHOS** – (Credibility) – the argument must be made by someone who is viewed as trustworthy and who has the appropriate ethical framework.

The pro-vaccine lobby only really uses LOGOS.  
Parents with autistic children are going to be emotional





# No demographic data??

Opinions are less valuable - Selling Porsches – opinions in old peoples home favourable - but they are not the market.



Eg

Active anti-vaxxers are women 30-50 with middle class background who do not use computers and do not read newspapers and have an arts degree and are not formally married.

How do you reach them?

# THE DO NOTHING ARGUMENT

Health authorities should ignore the anti-vaxxers

- **Argument by health professionals simply provides oxygen to the anti-vaxxers**

Provides a public perception that there is a valid debate to be had

- **Diverts government resources from activities that we know**  
**increase vaccination rates**
  - sending reminders (very effective)
  - GP based ante natal programs
  - media management
  - out reach clinics
- **Falls on deaf ears anyway - has minimal impact on decisions not to vaccinate**

We have a very poor understanding of the demographics of the vulnerable parents who are persuaded by anti-vaxxer messages, so no idea how to target the right people with the right messages

Major failing to identify adequately demographics and reasons for not vaccinating

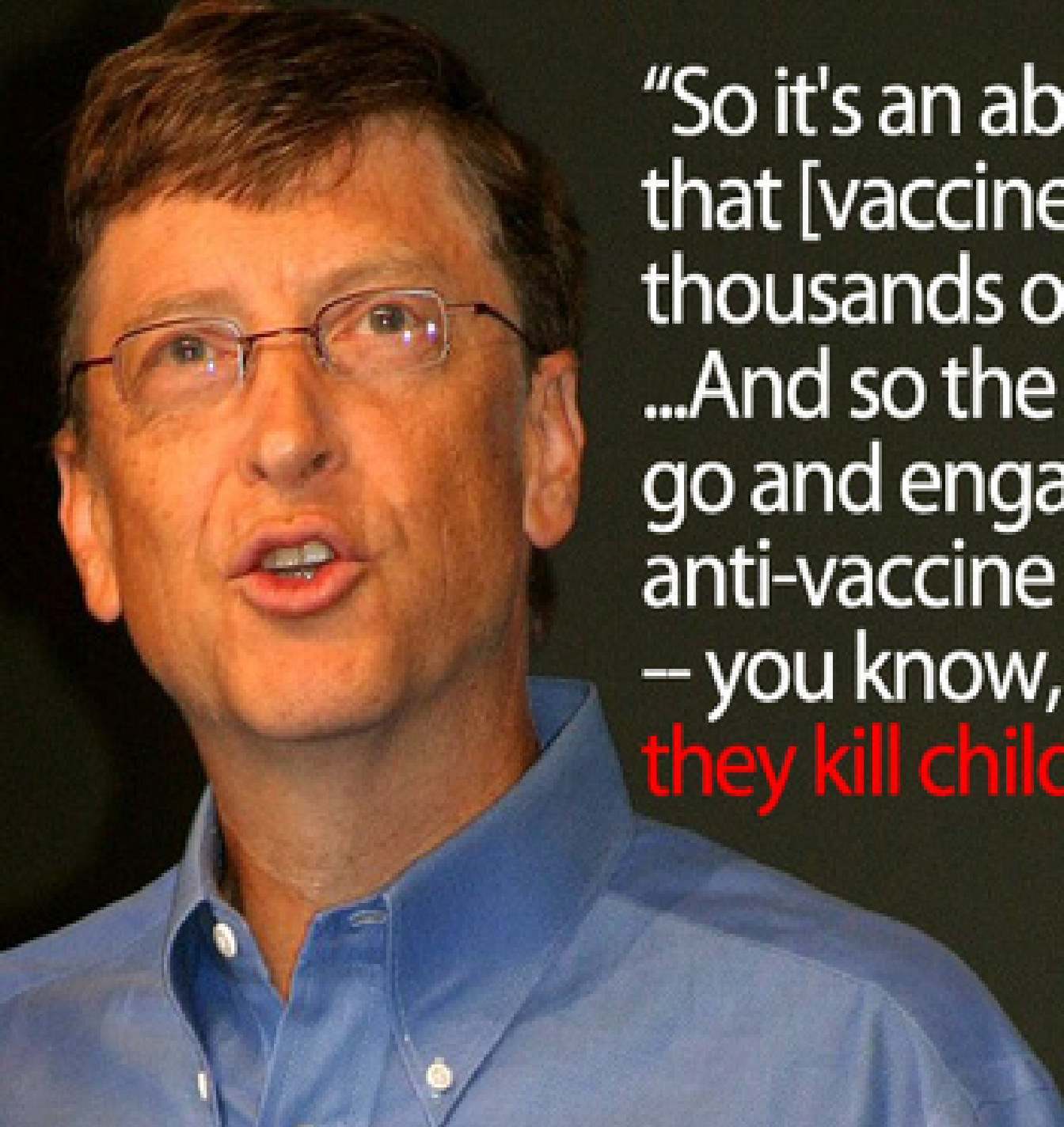
# Childhood immunisation

World Vision



# unicef

Charity Gifts  
for disease protection



"So it's an absolute lie  
that [vaccines] have killed  
thousands of kids.  
...And so the people who  
go and engage in those  
anti-vaccine efforts  
— you know, they,  
**they kill children.**"

—Bill Gates