



**ASSET**

share and move to face nasty bugs

# La medicina basata sulle evidenze: spaventare, aiuta?

Roberta VILLA, Zadig



co-funded by the EU. GA: 612236

[www.asset-scienceinsociety.eu](http://www.asset-scienceinsociety.eu)



# 2 EU-FUNDED PROJECTS



## TELL ME:

Transparent **communication** in Epidemics: Learning Lessons from experience, delivering effective Messages, providing Evidence

## ASSET:

Action plan on **Science-in-Society** related issues in Epidemics and Total pandemics

2 MILIONI EURO

4 MILIONI EURO



<http://tellmeproject.eu/>



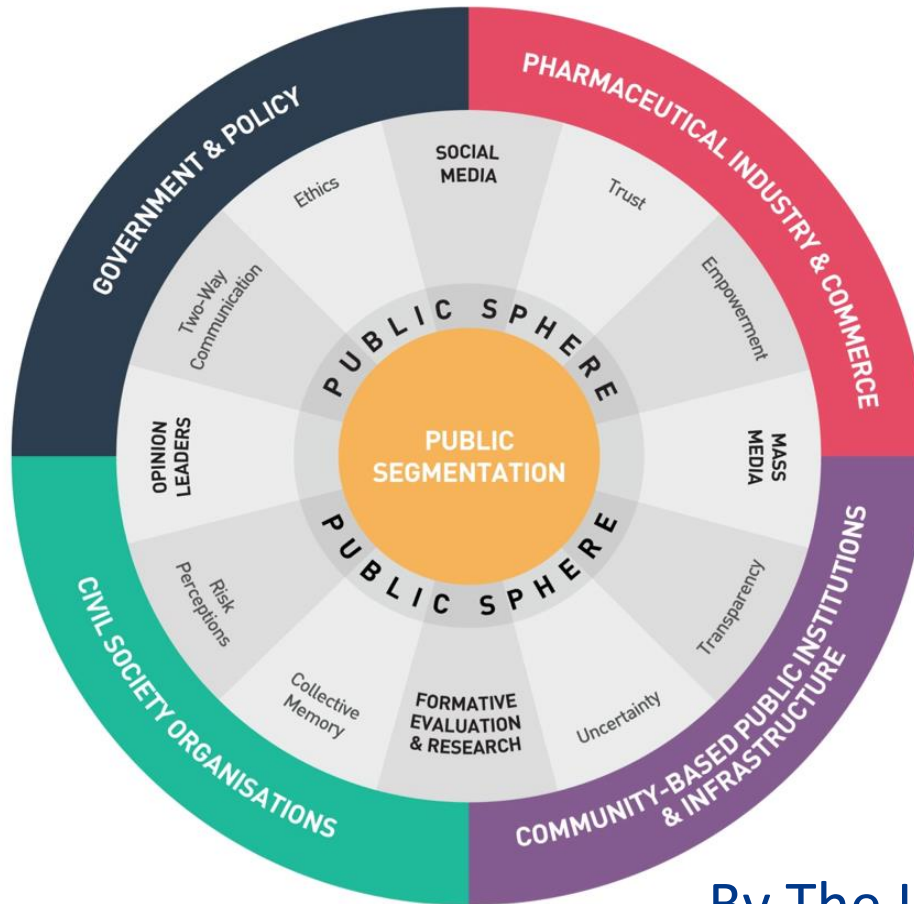
share and move to face nasty bugs

<http://asset-scienceinsociety.eu/>





# TELL ME PROJECT FRAMEWORK MODEL



By The University Of Haifa





# TELL ME PROJECT

**ST3.2.1**  
New communication strategies for health agencies and healthcare professionals

**ST3.2.2**  
New communication strategies for working with different sub-populations / target groups

**ST3.2.3**  
New communication strategies for institutional actors

**ST3.2.4**  
New communication strategies for preventing misinformation



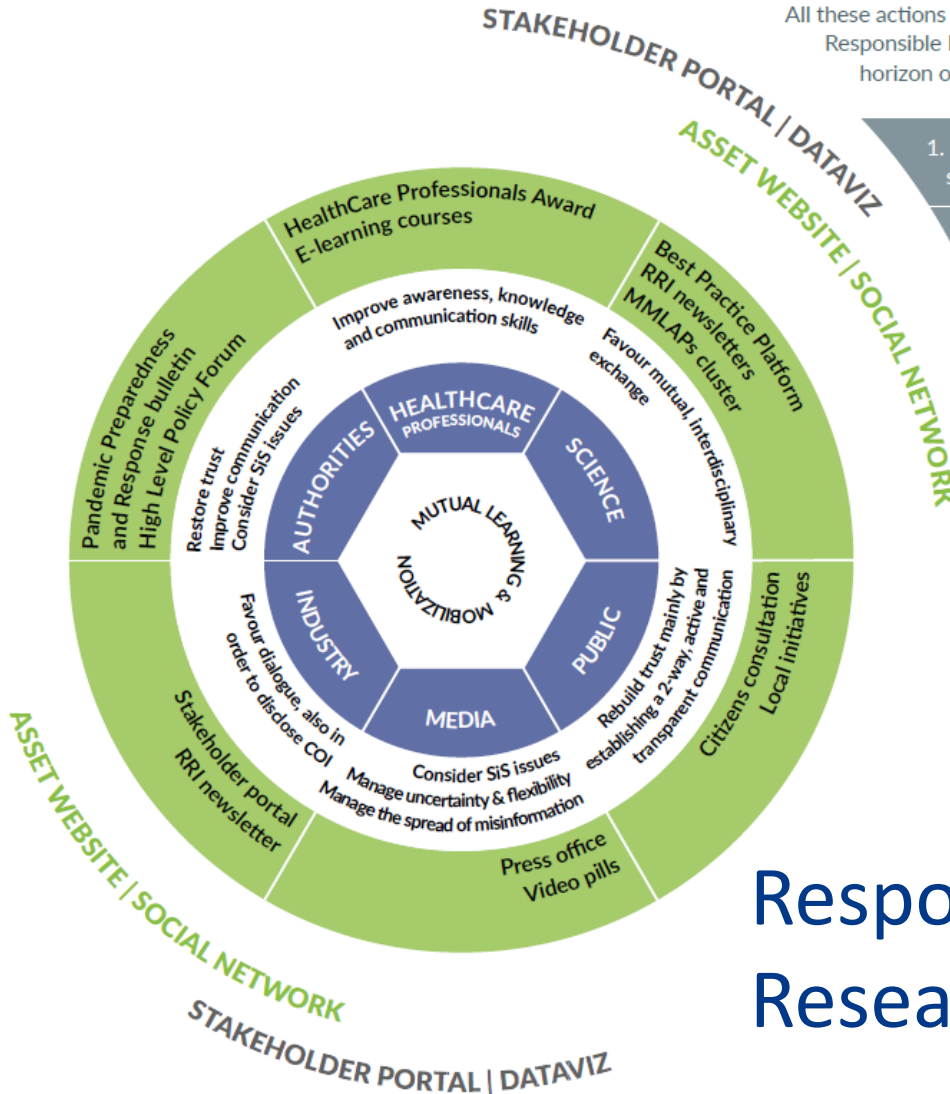
TELL ME E-Learning Course  
[elearn.tellmeproject.eu](http://elearn.tellmeproject.eu)





# ASSET PROJECT

All these actions can be seen in view of 6 themes of Responsible Research and Innovation within the horizon of Science-With-And-For-Society:



1. governance of flu pandemics and other similar crises;

2. unsolved scientific questions and open access on scientific outputs regarding influenza and pandemic situations;

3. crisis participatory governance;

4. ethical, legal and societal implications of pandemics and epidemics;

5. gender issues in pandemics and epidemics;

6. risk of intentionally caused outbreaks.

## Responsible Research and Innovation





**INFORMATION**

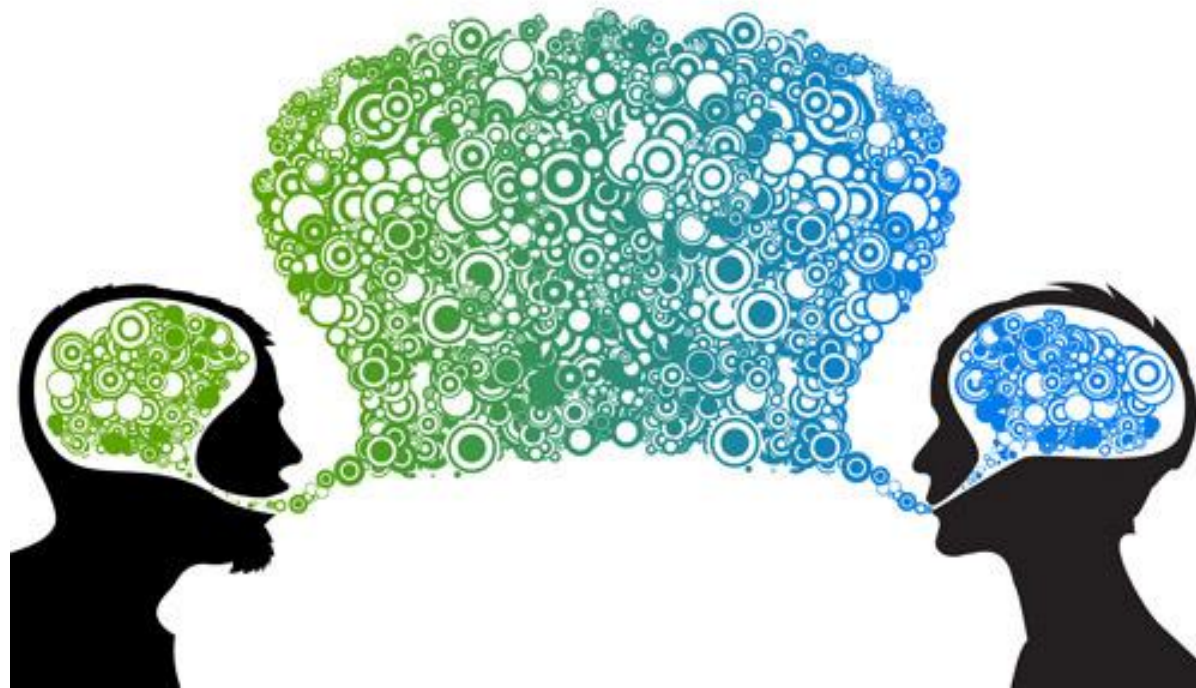
**EDUCATION**

**COMMUNICATION**





# COMMUNICATION



ONE SIMPLE RULE

LISTEN AS MUCH AS YOU TALK





“In the next influenza pandemic, be it now or in the future, be the virus mild or virulent, the single most important weapon against the disease will be a **vaccine**.

The second most important will be **(PARTICIPATORY ndr) communication.**”

John Barry. The Great Influenza in Nature, 2009







# PARTICIPATORY COMMUNICATION

- guarantees **full involvement** of participants
- provides them with **communication channels**
- enables them to **participate freely and equally** in dialogue and debate.





# PARTICIPATORY COMMUNICATION

- Approach based on **DIALOGUE**
- which allows **SHARING** of information, perceptions and **opinions** among stakeholders
- **to facilitate their EMPOWERMENT;**
- not just the exchange of information and experiences, but **exploration and generation of new knowledge**
- aimed at **addressing situations** that need to be improved.



World Bank, 2009





# CITIZEN CONSULTATION

- 400 CITTADINI
- 8 PAESI EUROPEI



<http://citizenconsultation.asset-scienceinsociety.eu/it-it/results>





# Patients and Public Involvement (PPI)

- Research being carried out ‘with’ or ‘by’ members of the public rather than ‘to’, ‘about’ or ‘for’ them.



**SEE ASSET D3.2 ROADMAP TO OPEN AND RESPONSIBLE RESEARCH AND INNOVATION IN PANDEMICS**





# TOOLS OF INVOLVEMENT

- Deliberative democracy
- Citizen science (i.e. gathering data, videogames, ecc...)
- Patient Associations in Editorial Committee of BMJ
- Preparing Professionals for Partnership with the Public (4Ps)
- [EUPATI Academy of patients](#)
- EURORDIS
- RARECONNECT
- Inluweb





# WHY do we need a «PARTICIPATORY» COMMUNICATION?

Spread of infectious diseases often depends on people's behaviour



People's behaviour depends on their beliefs, attitudes, habits, values, fears



A top-down information that does not take this into account can be ineffective





# LESSONS LEARNT BY H1N1

- “...in the past the main challenge was in dealing with the **perception and communication of RISKS**.
- In future, we need to develop ways of better **INVOLVING** the scientific community and civil society.
- The aim must be that **risk is properly understood and TRUST maintained**”.



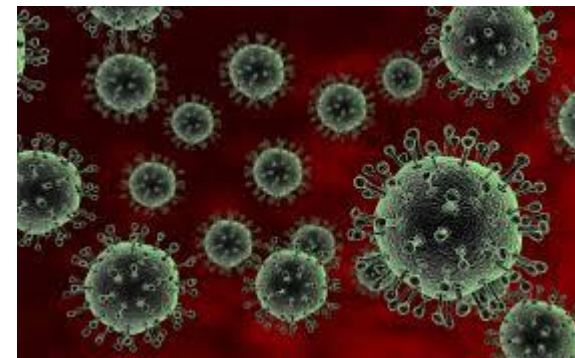
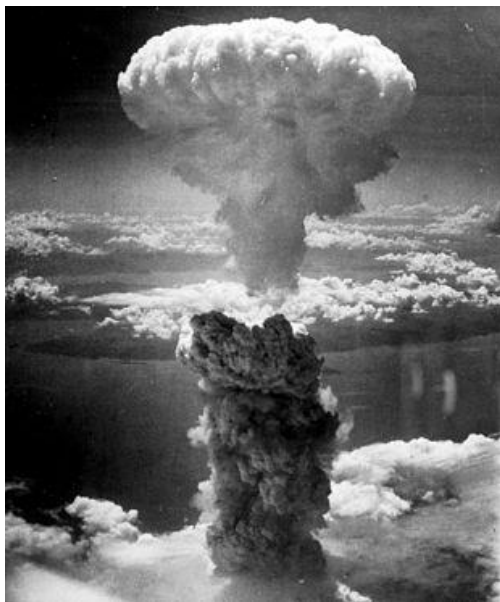
*ECDC. The 2009 A(H1N1) pandemic in Europe  
A review of the experience*



# RISK PERCEPTION

“The risks that kill people and the risks that alarm them are completely different”

Covello & Sandman, 2001







# PETER SANDMAN'S FORMULA

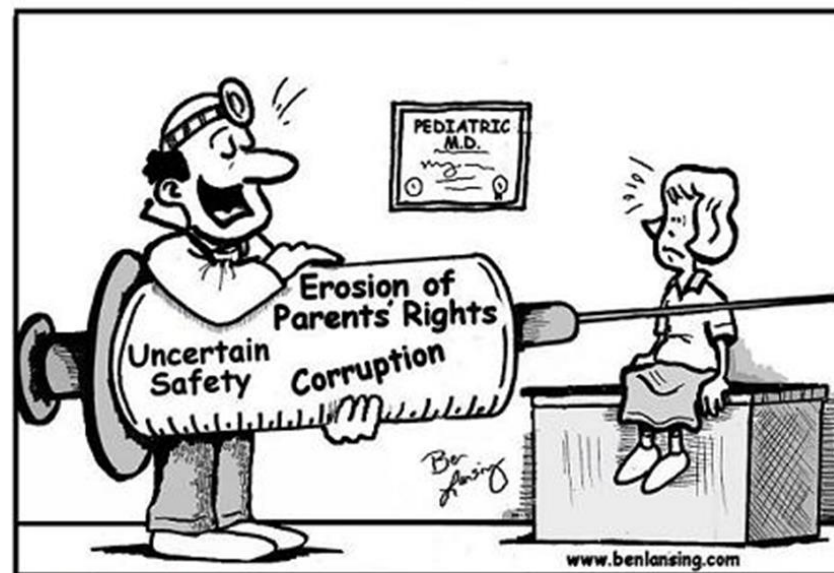
- Effective risk is different by its perception

$$R=H+O$$

R= Perceived risk

H= Hazard, effective risk

O= Outrage, what makes «offensive» the risk



"This new mandatory STD vaccine shouldn't hurt a bit."





# Some components of OUTRAGE

## MORE ACCEPTABLE

- Voluntary/controlled
- Natural
- Familiar/known
- Not memorable/  
Chronic
- Fair
- Morally irrelevant
- Trustworthy sources

## LESS ACCEPTABLE

- Coerced/controlled by others
- Industrial
- Exotic/unknown
- Memorable/  
Catastrophic
- Unfair
- Morally relevant
- Untrustworthy sources





# OTHER COGNITIVE BIAS

- Omission bias
- Neglecting probability
- Correlation and causation
- Confirmation and in-group bias  
(social networks)



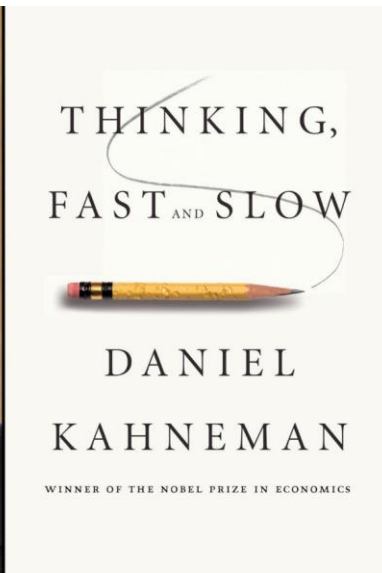
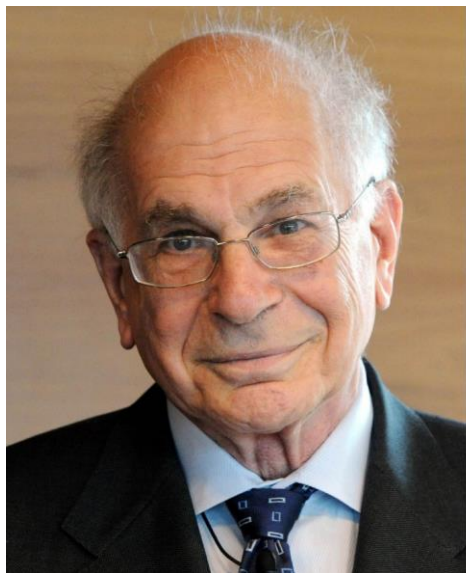


# Siamo esseri razionali?



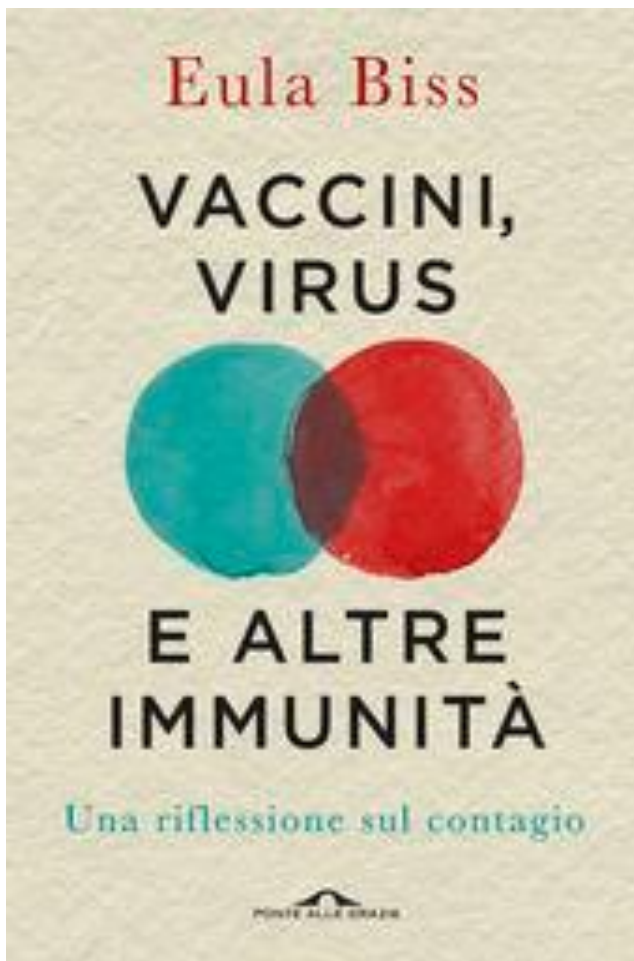


# DUE NOBEL





# Emozioni più che dati





# WE CANNOT IGNORE THEM!





# SPAVENTARE, AIUTA?

## 1. CONTENUTO DEL MESSAGGIO:

- ✓ grado di paura
- ✓ efficacia
- ✓ suscettibilità e gravità

## 2. NATURA DEL COMPORTAMENTO RACCOMANDATO:

- ✓ occasionale o ripetuto
- ✓ di diagnosi o prevenzione

## 3. AUDIENCE

- ✓ gender
- ✓ cultura (individualistica/collettivistica)
- ✓ intenzionata o no







# SPAVENTARE, AIUTA?

## Metanalysis

- Fear appeal attitude, int
- There are v  
**are not effe**
- There are n  
**they backfi**



2 partecipanti

**influencing**

**er which they**

**nder which  
utcomes.**

Tannenbaum et al. Psychol Bull 2015





# QUALCHE STUDIO DI SEGNO OPPOSTO

A 1759 genitori USA sono state inviate via web:

- informazioni sulla mancanza di legame MPR e autismo (**DEBUNKING**)
- informazioni CDC sui rischi delle malattie prevenibili con il vaccino (**fear appeal/inf**)
- immagini di bambini con le malattie (**fear appeal/vis**)
- storia drammatica di un bambino quasi morto di morbillo ai CDC (**fear appeal/storytelling**)
- **+ gruppo di controllo**

Nyhan B. et al, 2014

**PEDIATRICS**  
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Home | About | Current Issue | AAP Policy | eArchives | Supplements | Collections | eLetters | Early Release

**Article**

**Effective Messages in Vaccine Promotion: A Randomized Trial**

Brendan Nyhan, PhD<sup>1</sup>, Jason Reifler, PhD<sup>2</sup>, Sean Richey, PhD<sup>3</sup>, and Gary L. Freed, MD, MPH<sup>2,4</sup>

Author Affiliations

**ABSTRACT**

**OBJECTIVES:** To test the effectiveness of messages designed to reduce vaccine misperceptions and increase vaccination rates for measles-mumps-rubella (MMR).

**METHODS:** A Web-based nationally representative 2-wave survey experiment was conducted with 1759 parents age 18 years and older residing in the United States.

**This Article**

Published online March 3, 2014  
doi: 10.1142/peds.2013-2383

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# RESULTS

- None of the interventions **increased** parental intent to vaccinate a future child.
- Refuting claims of an MMR/autism link successfully reduced misperceptions that vaccines cause autism but nonetheless **decreased** intent to vaccinate among parents who had the least favorable vaccine attitudes.
- In addition, images of sick children **increased** expressed belief in a vaccine/autism link
- A dramatic narrative about an infant in danger **increased** selfreported belief in serious vaccine side effects.





# CONFERMA CHE



- L'informazione non basta
- Il debunking non basta
- Ogni informazione viene recepita in maniera diversa in relazione a chi la riceve







# QUALCHE STUDIO DI SEGNO OPPOSTO

- Su 536 fumatori, dopo un anno con pacchetto senza scritte minor soddisfazione, più pensieri di smettere, più alto nelle priorità

Wakefield M, BMJ Open 2012

- Una cinquantina di fumatori (soc. svantaggiati) in 6 focus group hanno confermato **reazioni di evitamento**

Guillaumier A, Health Education Research 2014





# OGNI COSA HA UN RIMEDIO





# QUALCHE STUDIO DI SEGNO OPPOSTO

- Una survey su 120 studenti universitari
  - vaccini e autismo
  - effetti collaterali vaccini
  - intenzione di vaccinare i figli

Pluviano S et al. Plos ONE 2017







# 4 TIPI DI INTERVENTO

## MYTH

## FACT

1

A 1998 study showed that the MMR vaccine causes autism, because some signs of autism appear around the same age that children receive the MMR vaccine against measles, mumps, and rubella.

There is no evidence of a link between the MMR vaccine and autism. The 1998 study which first suggested this link was later found to be seriously flawed and the paper was retracted.

2

POTENTIAL RISKS IN A GROUP OF 100 CHILDREN UNDER 5 YEARS OF AGE WHO GET MEASLES

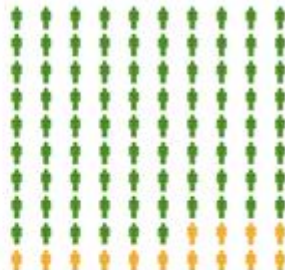


Most children will have the common and usually mild (in green) symptoms of measles e.g. fever, cough, runny nose, red, painful eyes, rash. Some may have more than one of these symptoms at the same time.

26 in 100 may have moderate (in yellow) symptoms:  
• 12 may have diarrhoea;  
• 14 may get an ear infection.

15 in 100 may have serious (in red) symptoms  
• 9 may get pneumonia  
• 5 may have measles croup  
• 1 may have fever-induced convulsion  
• Some may be hospitalised for any of the above symptoms.

POTENTIAL RISKS IN A GROUP OF 100 CHILDREN WHO HAVE THE MMR VACCINE



Most will have common and usually mild (in green) symptoms of the MMR vaccine e.g. pain or swelling at the injection site, joint pain and stiffness. Some may have more than one of these symptoms at the same time.

14 in 100 may have moderate (in yellow) symptoms:  
• 4 may have high fever;  
• 4 may be irritable;  
• 1 may have swelling of salivary glands;  
• 5 may have a non-infectious faint red rash.

3

## MUMPS

The mumps virus causes fever, headaches and swollen salivary glands under the jaw. Children who get mumps may develop meningitis (inflammation of the covering of the brain and spinal cord) and encephalitis (inflammation of the brain). Mumps can also result in permanent hearing loss.



4

# CONTROLLI



# CONCLUSIONS

- Debunking **induced stronger beliefs in the vaccine/autism link and in vaccines side effects** over time
- Exposure to fear appeals through images of sick children led to **more increased misperceptions about vaccines causing autism and** the strongest beliefs in vaccines side effects
- No corrective strategy was useful in enhancing vaccination intention.
- Compared to the other techniques, the usage of fact/icon boxes resulted in less damage but did not bring any effective result.



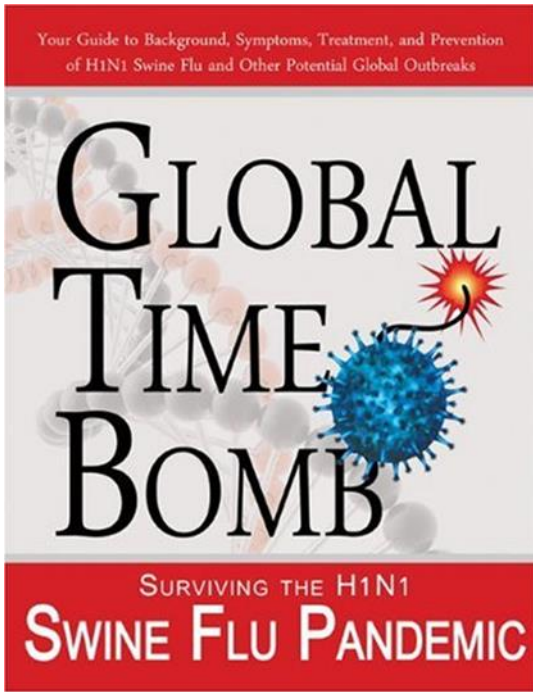


# FEAR APPEAL





# PANDEMIA 2009 A(H1N1)





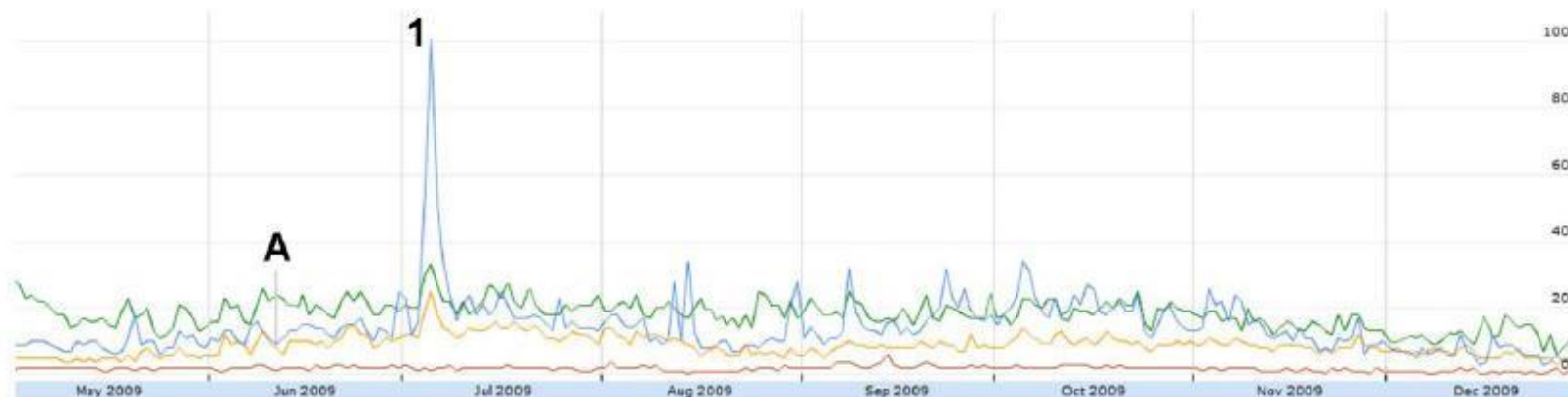
# Al lupo, al lupo?





# Campagna italiana





**Figure 11.** The relative proportion of tweets expressing concern from May 1 to December 31 2009. Blue = concern for others. Red = concern for self. Yellow = concerned emoticons. Green = general concern. A = June 11: WHO pandemic level 6 announcement. 1 = July 5: Harry Potter actor Rupert Grint has H1N1. Reproduced under the Creative Commons license. Taken from *Pandemics in the Age of Twitter: Content Analysis of Tweets during the 2009 H1N1 Outbreak*, Chew, C., Eysenbach, G. 2010, *PLoS ONE* 5(11) p.9, Fig.9.

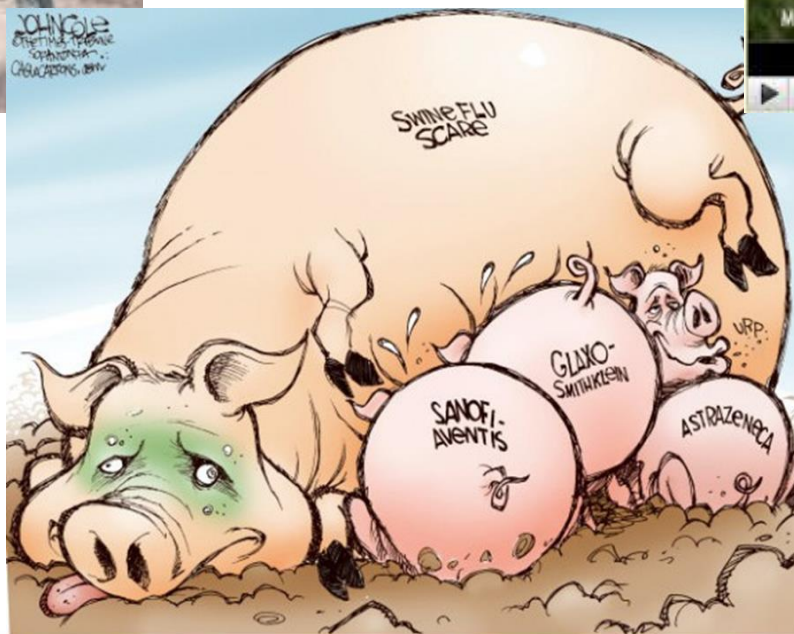
# La paura è passata subito

# La comunicazione non si è adeguata





# ...humour (and suspect) came in







“Member States had prepared for a pandemic of high severity and appeared **unable to adapt** their national and subnational responses adequately to a more moderate event. **Communications** were also demonstrated to be of immense importance: the need to provide **clear risk assessments to decision-makers** placed significant strain on ministries of health; and **effective communication** with the public was challenging”.

## Dichiarazione di sconfitta

*Pandemic Influenza Risk Management  
WHO Interim Guidance*

2013





# 2009 A(H1N1) pandemic impact

- ↓ Trust in authorities
- ↓ perception of pandemic risk

**Trust?**  
Years to earn, seconds to break.

PUNJABIGRAPHICS.COM





RESEARCH ARTICLES

# Dramatic change in public attitudes towards vaccination during the 2009 influenza A(H1N1) pandemic in France

P Peretti-Watel (patrick.peretti-watel@inserm.fr)<sup>1,2,3</sup>, P Verger<sup>1,2,3</sup>, J Raude<sup>4,2</sup>, A Constant<sup>2,4</sup>, A Gautier<sup>5</sup>, C Jestin<sup>5</sup>, F Beck<sup>5,6</sup>

- 1. INSERM, UMR912 Economics and Social Sciences Applied to Health and Analysis of Medical Information (SESSTIM), Marseille, France
- 2. Aix Marseille University, UMR\_S912, IRD, Marseille, France
- 3. ORS PACA, Southeastern Health Regional Observatory, Marseille, France
- 4. Department of Social and Behavioural Sciences, EHESP Rennes, Sorbonne Paris Cité, France
- 5. National Institute for Prevention and Health Education (INPES), St Denis Cedex, France
- 6. Cermes3 - Equipe Cesames (Research Centre on Medicine, Sciences, Health, Mental health and Society), University Paris Descartes, Sorbonne Paris Cité/CNRS UMR 8211/Inserm U988/EHESS), Paris Cedex 06, France

Citation style for this article:

Peretti-Watel P, Verger P, Raude J, Constant A, Gautier A, Jestin C, Beck F. Dramatic change in public attitudes towards vaccination during the 2009 influenza A(H1N1) pandemic in France. Euro Surveill. 2013;18(44):pii=20623. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20623>

Article submitted on 14 January 2013 / published on 31 October 2013

3 indagini telefoniche

Antivaccini

- 1) 2000 (12.000 p)
- 2) 2005 (24.000 p)
- 3) 2010 (8.500 p)

8,5%

9,6%

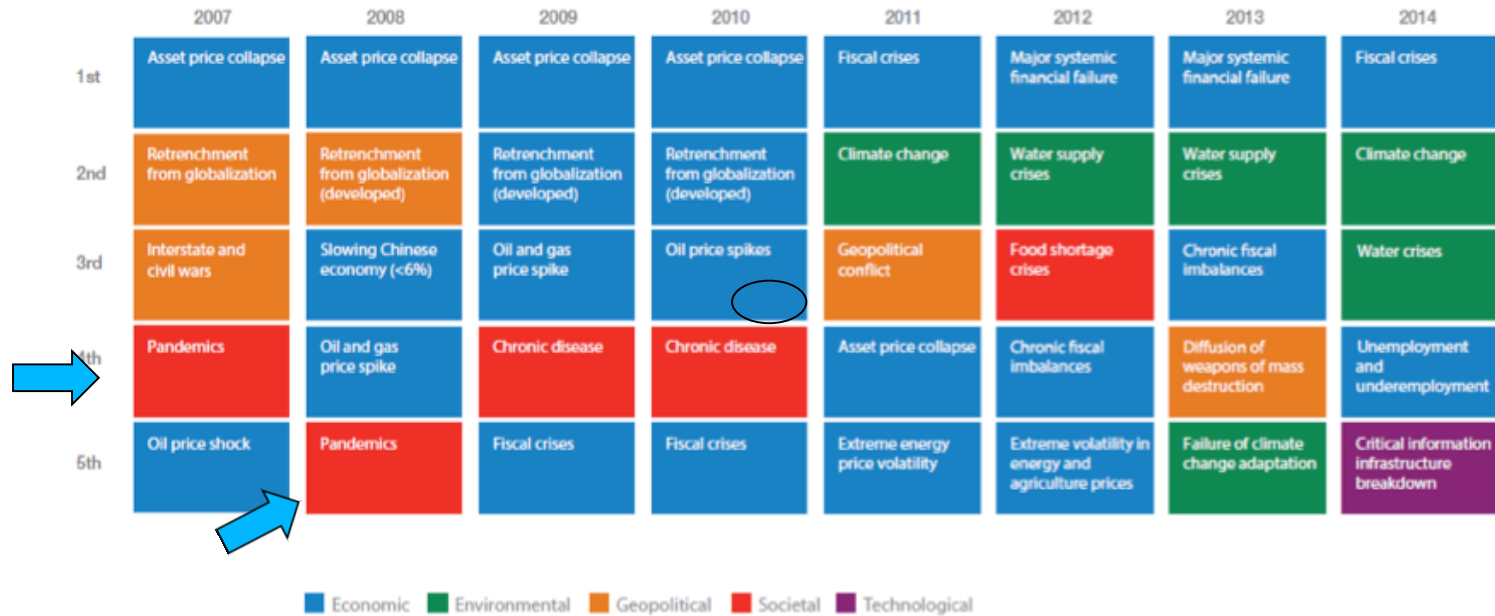
**38,2%**

[www.eurosurveillance.org](http://www.eurosurveillance.org) 31/10/2013





## Top 5 Global Risks in Terms of Impact



Source: *Global Risks* reports 2007-2014, World Economic Forum.

Note: Global risks may not be strictly comparable across years, as definitions and the set of global risks have been revised with new issues having emerged on the 10-year horizon. For example, cyber attacks, income disparity and unemployment entered the set of global risks in 2012. Some global risks were reclassified: water supply crises and income disparity were reclassified as environmental and societal risks, respectively, in 2014.

## Fear of pandemics has vanished since 2009 (coincidence with the global economic crisis)

### WEF Global Risks Perception Survey 2013-2014



ATTENTION!  
EBOLA!

Un'epidemia da paura  
Un'epidemia di paura





# INFORMAZIONE

- La malattia esiste ed è vera!
- Bush-meat
- Contatto persone e ammalati
- Pratiche funerarie
- Sospetti nei confronti dell'Occidente

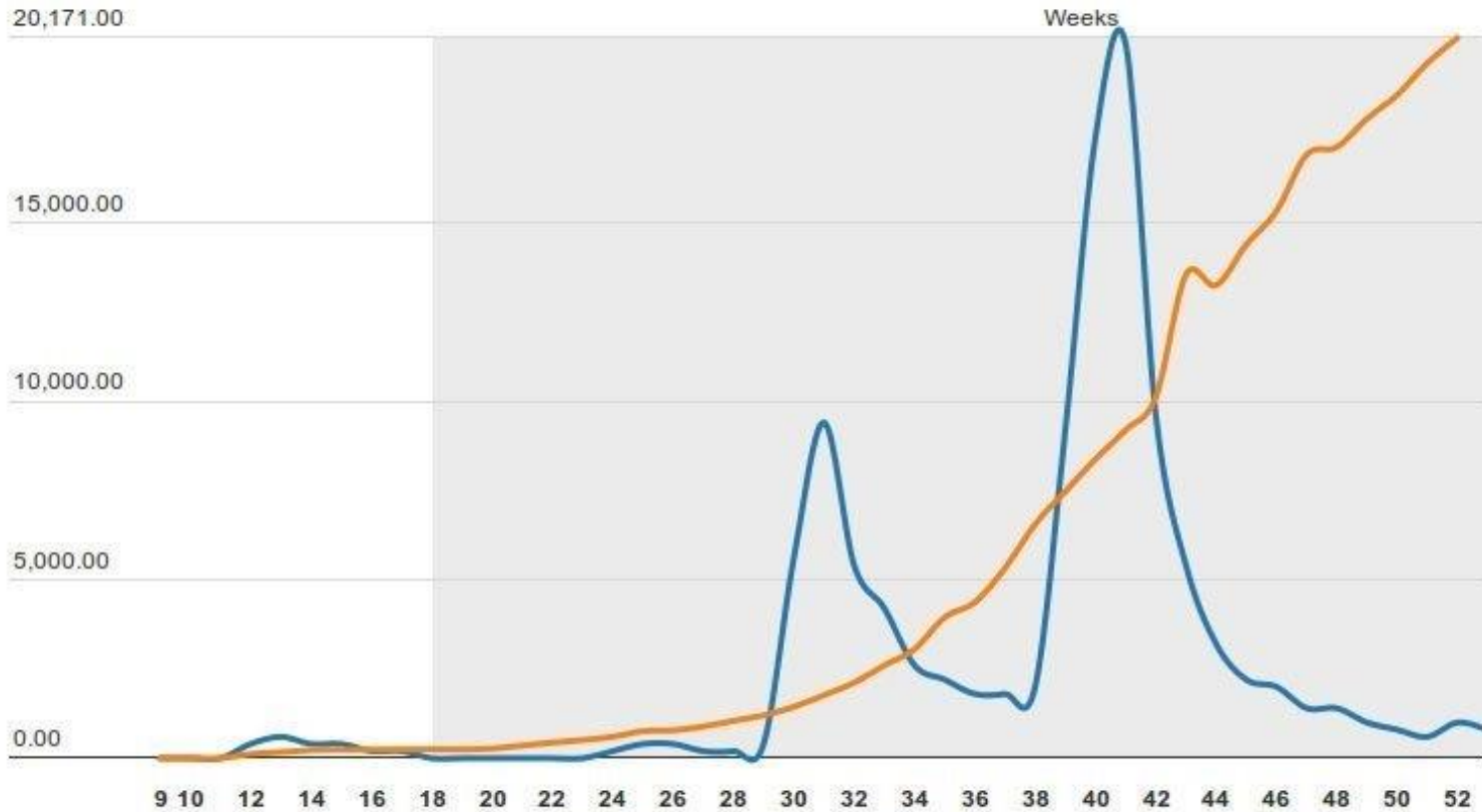


and move t



### 2014 Ebola outbreak vs public interest

■ Google Trend for Ebola searches ■ Total Cases (Liberia/Sierra Leone/Guinea)



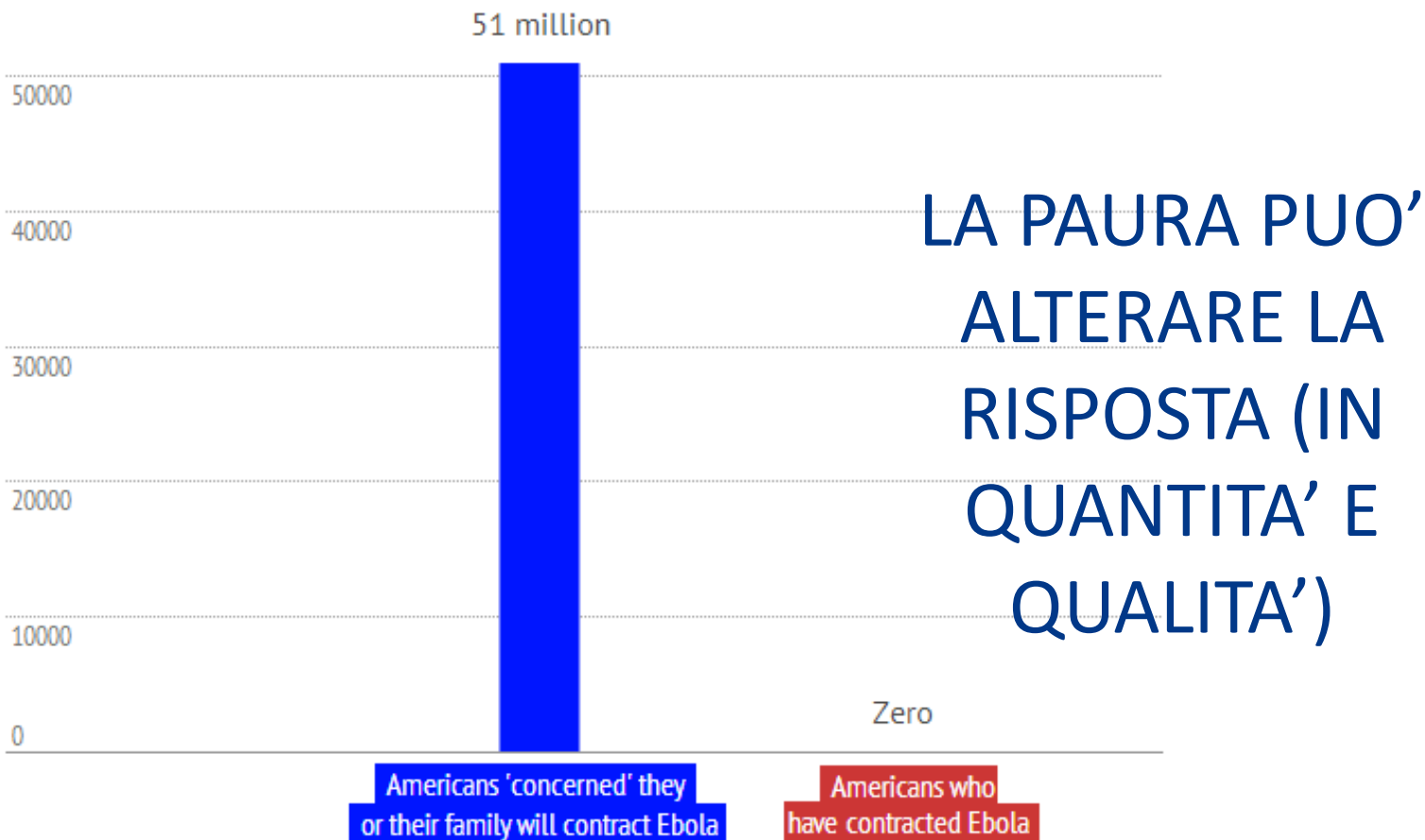
Source: [Google Trends](#) / [WHO](#) [Get the data](#)

Created with [Datawrapper](#)





# Ebola in America: Fear outstrips reality



Source: Harvard School of Public Health poll, 8/21/14; Census data.

Analysis and graphic by @ddiamond.







### COSTUMI DI HALLOWEEN



## Sexy Ebola Nurse Costume

SKU: 448697477

**Price: £45**



**Sexy Ebola Nurse Costume includes:**

- Hazmat Dress
- Hazmat Leggings
- Safety Goggles
- Prop Gas Mask

\* PLEASE NOTE: this item is not suitable for protection against hazardous materials.

**ADD TO CART**





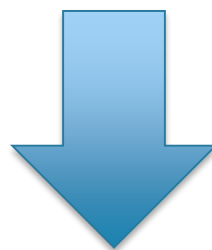
# STIGMA: il caso ebola





# STIGMA: l'esperienza dell'AIDS

- MINORE PROPENSIONE A CERCARE LA DIAGNOSI
- MINORE PROPENSIONE AD ADOTTARE MISURE PREVENTIVE
- TRASCURATEZZA DA PARTE DI GRUPPI CHE SI RITENGONO MENO A RISCHIO

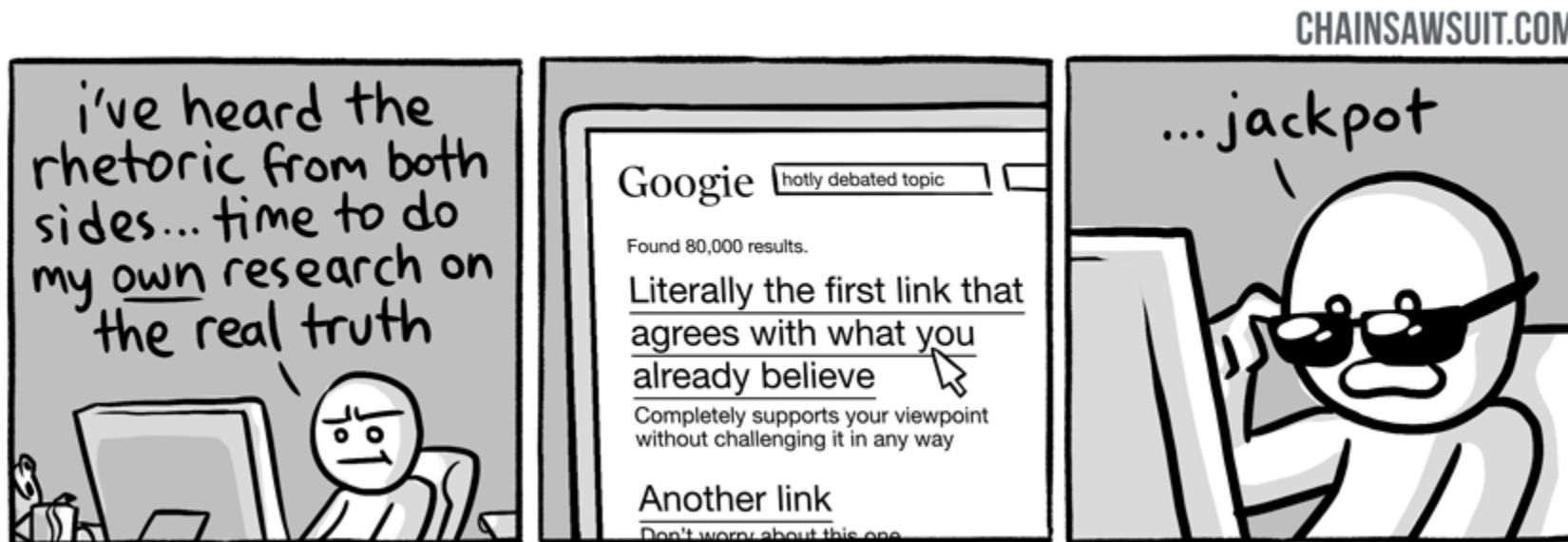


- MAGGIORE DIFFUSIONE DELL'EPIDEMIA





# TUTTI VITTIME DEL CONFIRMATION BIAS?





# GRAZIE!



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