Vaccine Hesitancy

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Sept. 22nd, 2016

Limerick

Importance of Vaccines

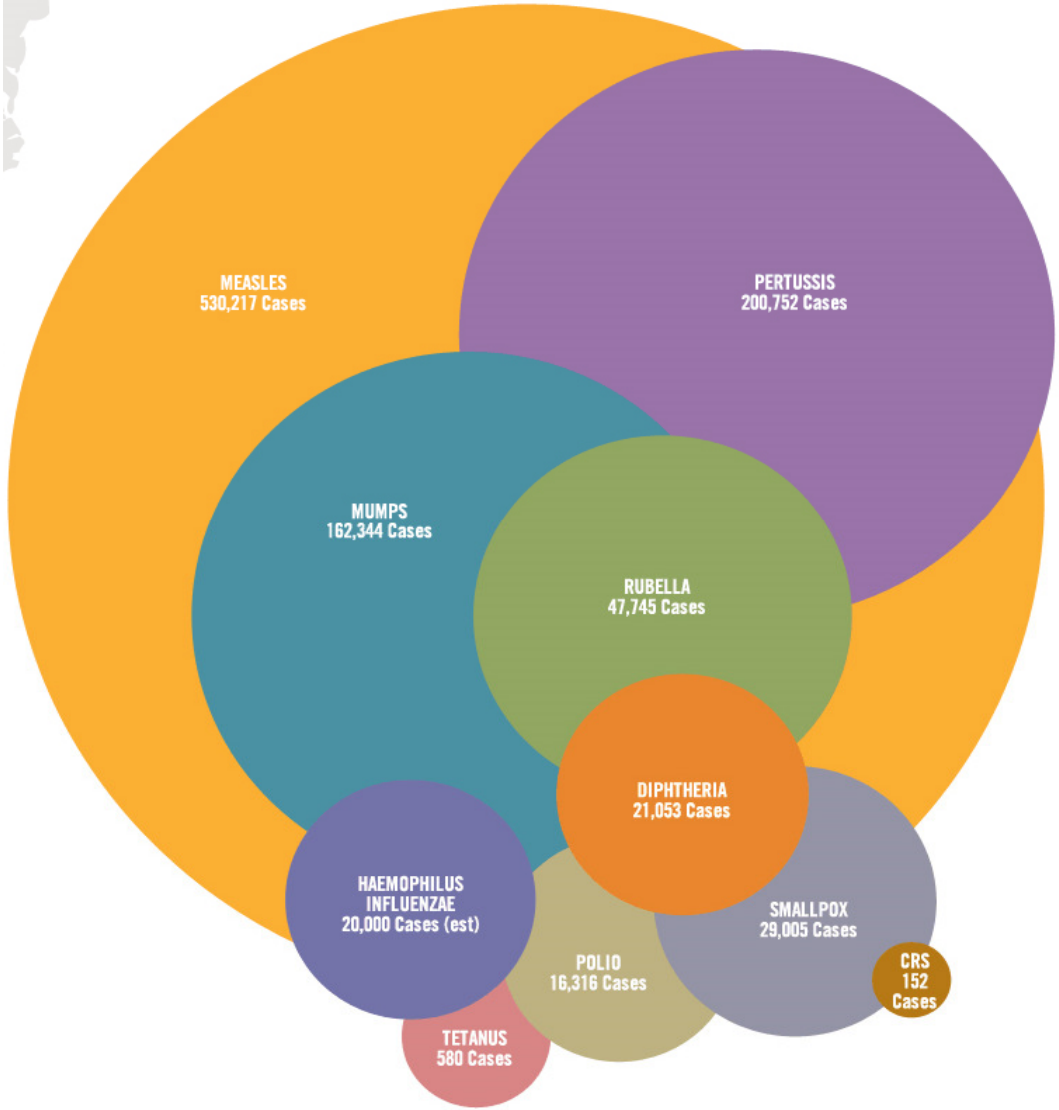
The success of vaccines in reducing disease-associated mortality is second only to the introduction of safe drinking water

Irish Immunisation schedule is estimated to:

Prevent 600 deaths
Prevent 30,000 cases of disease per birth cohort

THEN

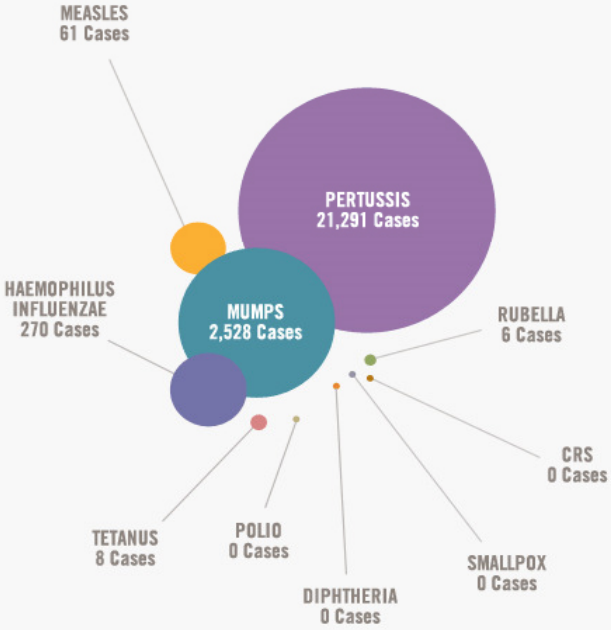
Annual US disease cases in the 1900s



:ations. http://www.cdc.gov/vaccines/pubs/parents-guide/default.htm. Accessed August 15, 2011.
:ubs/pinkbook/downloads/appendices/G/impact-of-vaccines.pdf. Updated January 2011. Accessed August 15, 2011.

NOW

US disease cases in 2010



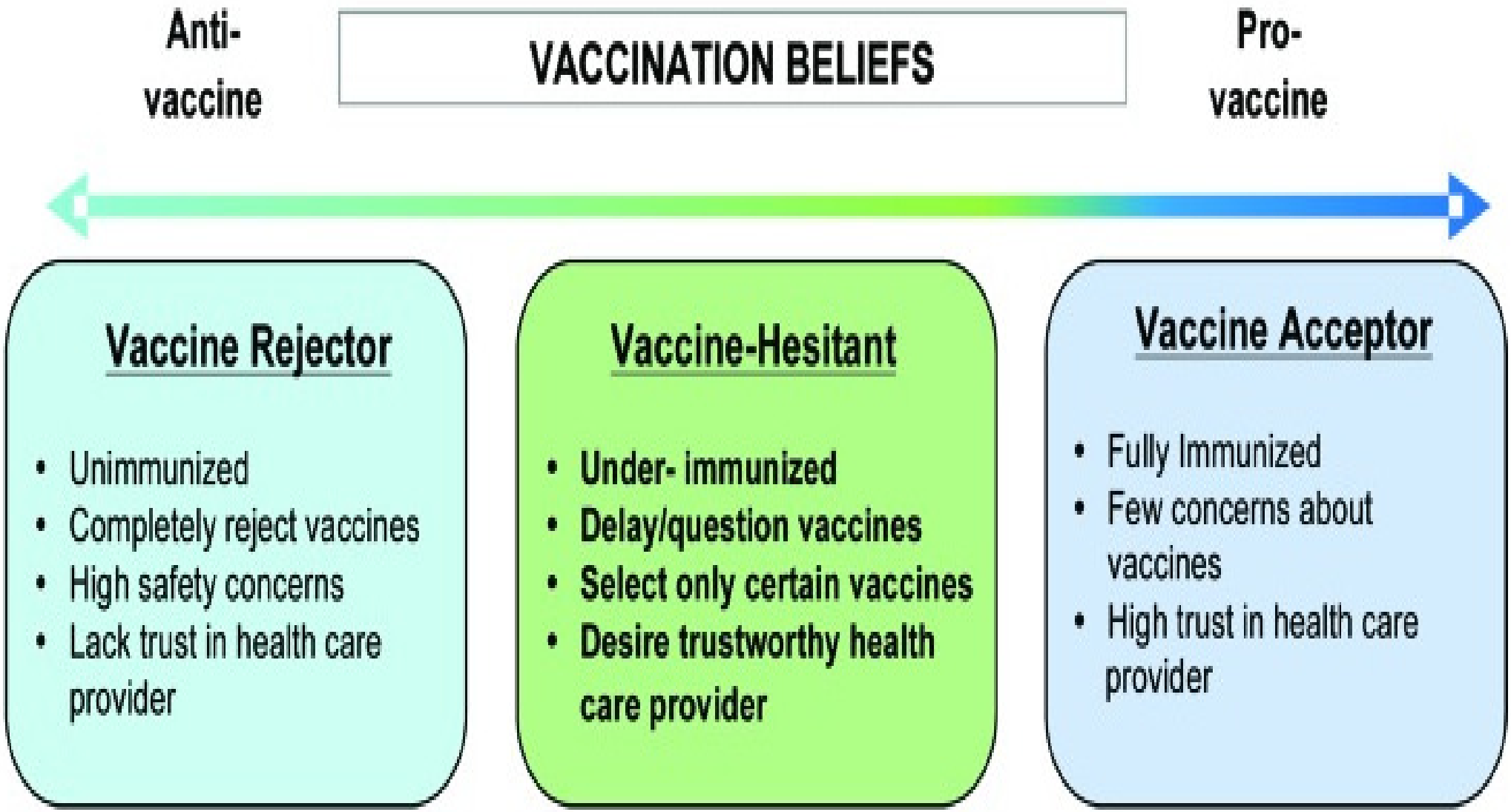
Vaccine Scares

- “Punch” and Smallpox
- Kulenkampff and Pertussis
- Wakefield and MMR
- Various and oral Polio
- Various and HPV

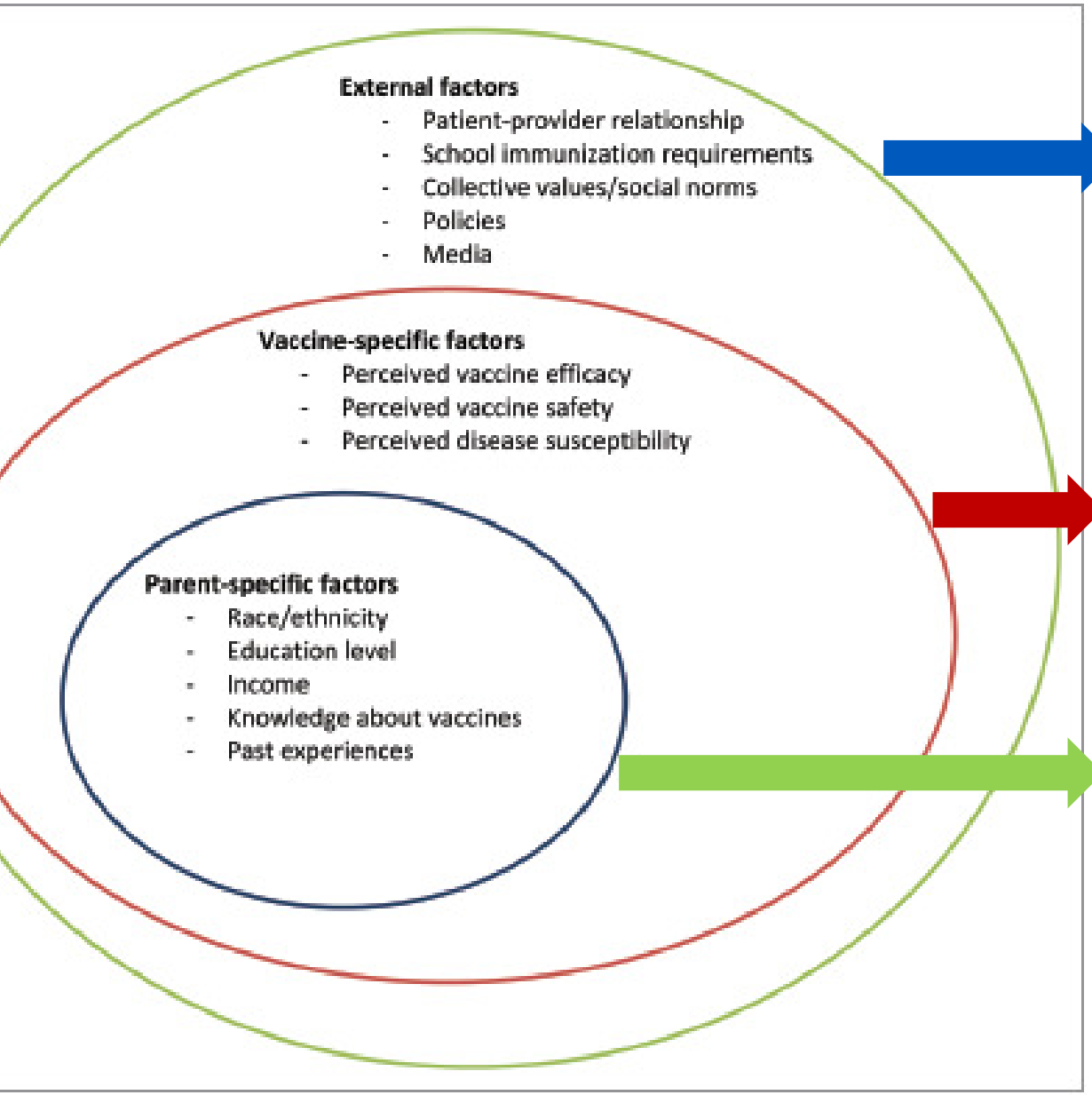
Attitude to Vaccination

Heterogeneous group

- Unquestioning acceptor
- Cautious acceptor
- Hesitant
- Late/selective
- Refuser


Anti-vaccine
VACCINATION BELIEFS
Pro-vaccine
Vaccine Rejector
• Unimmunized
• Completely reject vaccines
• High safety concerns
• Lack trust in health care provider
Vaccine-Hesitant
• Under- immunized
• Delay/question vaccines
• Select only certain vaccines
• Desire trustworthy health care provider
Vaccine Acceptor
• Fully Immunized
• Few concerns about vaccines
• High trust in health care provider

Factors Influencing Vaccine Hesitancy



- Racial/ethnic disparities
- Lower income level associated with reporting not having enough vaccine information
- Refusal of all vaccines more common among college educated parents.

- Immediate or short term effects: pain, fever, redness, swelling
- Long term effects concerns: autism, GBS
- Omission bias: prefer the consequences of doing nothing to the consequences of doing something
- Number of vaccines: pain, side effects when receiving multiple vaccines, immunologic overload
- Lack of personal experience with the disease leads to an underestimation of the severity of the disease

- Vaccine refusers- less emphasis on providers' recommendations when m healthcare decisions
- School mandated vaccine policies significantly increase vaccine coverage
- Media: tailored messaging based on level of vaccine hesitance, finding a vaccine champion

Gowda C, Dempsey A. (2013). Human Vaccines & Immunotherapeutics 1755–1762;

Vaccine Hesitancy and Refusal: Common Themes

- Safety / “new”
- Perceived associations with specific conditions
- Unnecessary
- Parental autonomy to make vaccine decisions
- Efficacy
- Unnatural

Risks Perception and Vaccine Hesitance (US)

s risk		More risk	Impact on vaccine hesitance
untary	versus	Involuntary	Vaccines are mandatory for school entrance
vidual control	versus	System control	Risk of adverse reactions are not in control of parent
ission	versus	Commission	Preference for adverse health outcomes due to disease (errors of omission: not vaccinating) than vaccinating (error of commission: vaccinating)
ural	versus	Manmade	Disease risks are "natural," whereas vaccine risks are "manmade"
dictable	versus	Unpredictable	Difficult to predict risks of very rare but serious adverse reactions
dreaded	versus	Dreaded	Once-common diseases like varicella are not dreaded whereas very rare but serious adverse reactions are dreaded
iliar	versus	Exotic	Parents are more familiar with common health problems that are alleged (without scientific support) to be caused by vaccines, like autism, than diseas they are not familiar with, such as polio, measles, and diphtheria

Salmon et al / Am J Prev Med 2015

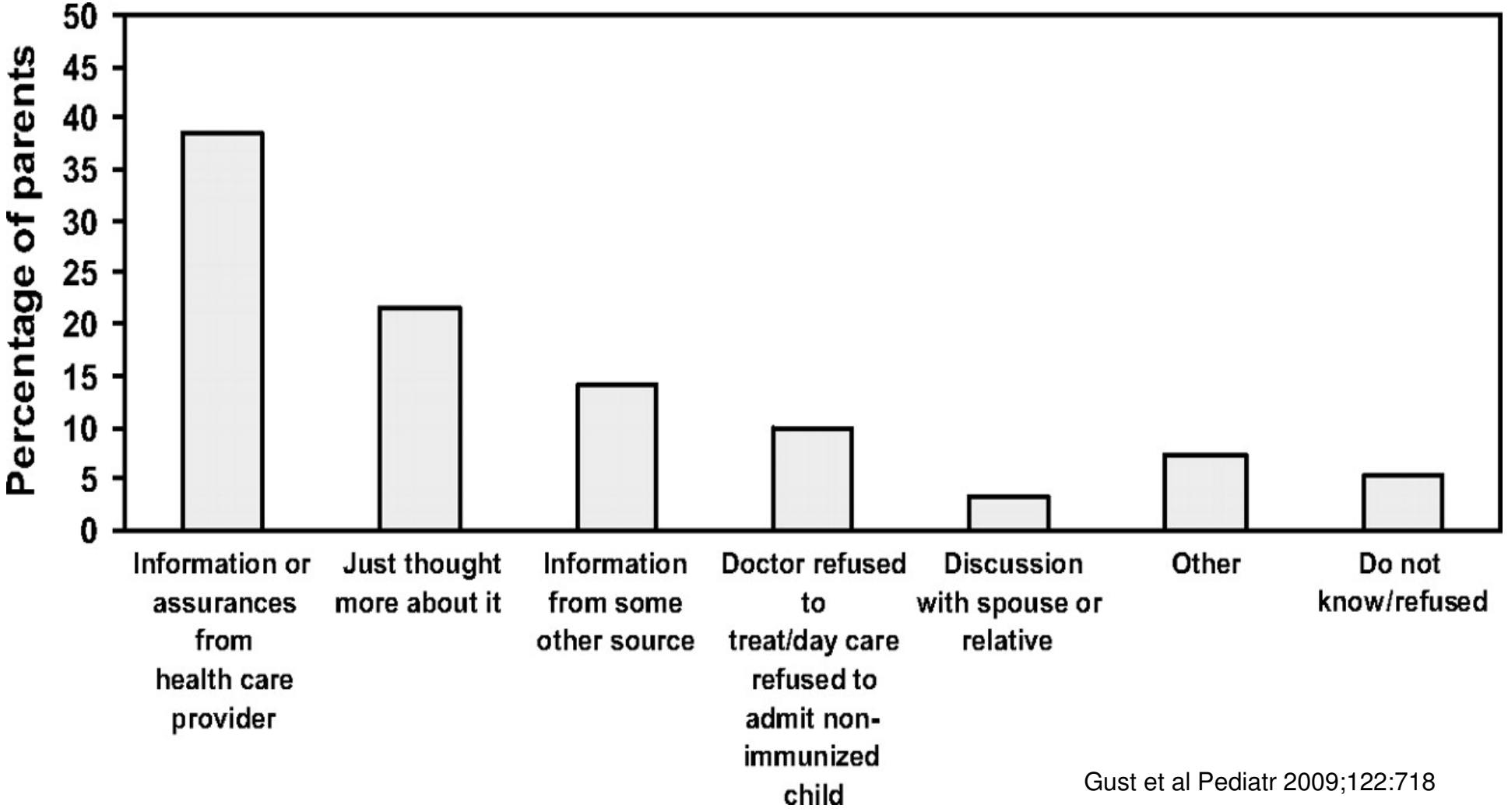
Top Vaccine Concerns of Patients/Families
(Survey of Pediatricians, US)

- Autism
- Thiomersal
- Aluminum
- Pain of so many shots
- Why so many shots at once/so early?
- Overwhelming the immune system
- Have not seen the diseases

More Parent Concerns (US, 2012)

- Mistrust scientific research, funding, motives (payment per vaccine)
- My unvaccinated baby is “healthier” than vaccinated children
- My responsibility is MY child, not Public Health
- Highly influenced by non-doctor providers - chiropractors, nurses, midwives/doulas

Why Parents Planning To Delay/Refuse Vaccine Changed Their Minds



Gust et al Pediatr 2009;122:718

Successful Interventions to Increase Uptake
(not in order of importance)

- Directly target unvaccinated/under-vaccinated
- Aim to increase knowledge and awareness
- Improve convenience and access to vaccination
- Target specific populations (i.e. local community, HCWs)
- Mandate vaccinations or impose sanction for non-vaccination
- Employ reminder and follow-up
- Engage influential community leaders

WHO (2014). Strategies for addressing vaccine hesitancy-a systematic review.

Least successful interventions to increase uptake

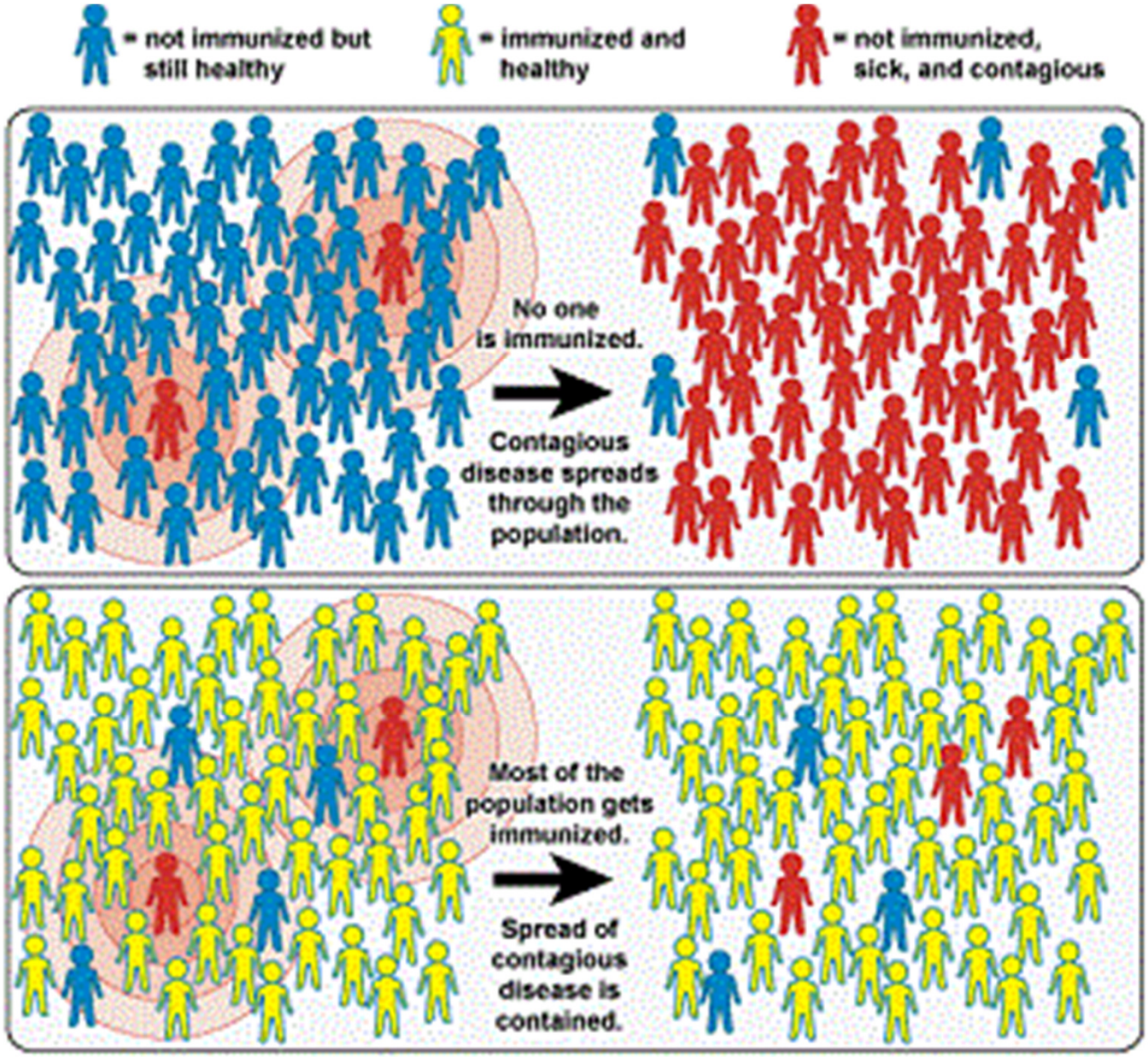
- Focused on quality improvement (e.g. better data collection, extended clinic hours)
- Only applicable to the individual from a distance (e.g., posters, websites, media/radio releases)
- Incentive-based interventions e.g. conditional cash transfers

Do not generalise interventions before understanding the different target audiences, vaccine of interest and setting

WHO (2014). Strategies for addressing vaccine hesitancy-a systematic review.


IM NOT GOING TO INSTALL
ANTI-VIRUS ON MY NEW LAPTOP
BECAUSE I DON'T WANT
IT TO TO GET AUTISM

Refusal increases individual risk and the risk for the community



According to Aristotle…….

To persuade, one needs more than just evidence

Need

- **Logos** (information and reasoning)
- **Pathos** (passion, compassion, and conviction)
- **Ethos** (professional standing with the carer)

Listen first

“Having a prepared spiel and spouting lots of science without knowing what someone’s concerns are wastes time and does not build trust.”

Assess Degree of Concern

- Ask parent what, if any, are their concerns

- Specific fear/s based on myths in media or from friends, if listened to and carefully addressed, will be allayed

- Those fearful of vaccines due to personal experience

- Those who refuse vaccines as part of a larger life philosophy

What Works (NOT)(in US)

1. Passage of state laws

1. "The introduction of philosophical exemptions consistently showed an increase in non-medical exemption rates.“

2. State and school level implementation of laws

2. "...decreased exemption rates with early and frequent notification of parents for school entry immunization requirements“

3. Parent-centered education - brochures, pamphlets, posters, parent meeting, radio, power point, web-based decision aid

3. "Our systematic review did not reveal any convincing evidence on effective interventions to address parental vaccine hesitancy and refusal"

Literature review July-September 2012 including 30 studies

Phone survey of 1759 US parents assigned to 1 of 4 pro-vaccine messages

1. Correcting misinformation-MMR vaccine and autism
2. Presenting information on disease risks-symptoms of MMR, adverse events after vaccine
3. Using dramatic narratives – mother recounting of hospitalisation of infant son with measles
4. Displaying pictures of a child with each disease

Effective messages in vaccine promotion (Pediatrics 2014)

- None of the interventions increased intent to vaccinate among parents least favourable vaccine attitudes
- Information from CDC corrected misperceptions about MMR causing autism but reduced vaccination intent among parents with least favorable vaccine attitudes
- Both dramatic narrative and images of sick children increased misperceptions of MMR vaccine
- Importance of testing health messages for effectiveness before dissemination

Your Negative Emotions

Parents who listen to celebrities or media rather than you, who feel that they know what is best for the child, may aggravate!

Pre-empt Resistance

- Let the parents know proactively their importance in strongly supporting vaccines for their child
- Share if you vaccinate your own child/niece/nephew
- Give websites you trust

Use stories rather than theories

- Focus on diseases that are still seen and they can understand
- Maximise benefits to their child
- Talk about someone who did not get vaccines

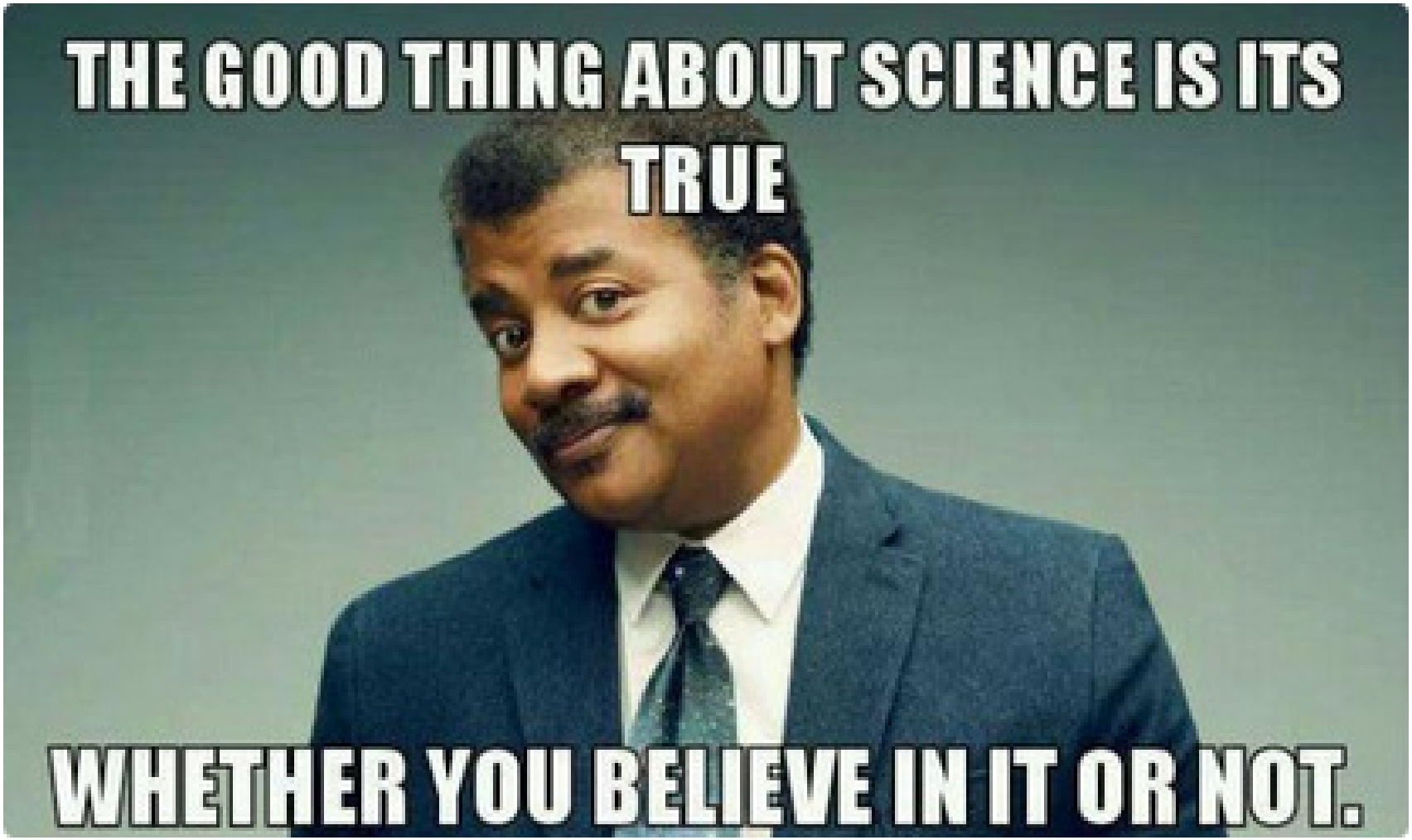
What is Recommended?

- Understand parental concerns
- Establish honest dialogue
- Acknowledge that vaccines may be associated with adverse events
- Balance that against disease risk
- Address specific concerns
- Provide other information resources
- Ensure ongoing communication

Top 5 Reasons for declining HPVV (US, 2013)

Reason	%
Lack of knowledge	15.5
Not needed or necessary	14.7
Safety concern/Side effects	14.2
Not recommended	13.0
Not sexually active	11.3

http://www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.pdf


THE GOOD THING ABOUT SCIENCE IS ITS TRUE
WHETHER YOU BELIEVE IN IT OR NOT.

Estimated Impact of HPV Vaccination

In the 10 years since HPV vaccine introduced:

- HPV Genital infection reduced by 64 - 85%[1]
- CIN2 + 3 reduced by 75% [2]

[1] US, Australia

[2] 3m. girls, Sweden, 2006-13, vaccinated <17yrs. International Journal of Cancer (2016).

Estimated Impact of no HPV Vaccination

- Currently 500,000 girls <15 in Ireland; if none are vaccinated:
  - 3,500 will develop cervical cancer
  - 1,000 will die from cervical cancer

- **Vaccinating 80% would prevent 1600 cases and 500 deaths**

Bottom Line

- This is not a debate, it is a conversation
- It doesn't matter if you are "right,"

  it matters what the parents want

  and what they decide to do

Finally…..

Stay on message

- Vaccines are safe and effective
  - Recommended by independent experts
  - Higher safety standards than drugs
- Present risks and benefits accurately
- Consequences of not vaccinating
- Clear language