Vaccination – an informed choice

Darina O’Flanagan
Director Health Protection
Surveillance Centre  Ireland
Content

- Mandatory vaccination versus informed choice
- Role of the Media in providing vaccine information
- Role of Incentives
- Tracking parental attitudes
- Influence of anti-vaccinationists
- Vaccination scares
- Approaches to providing information
- Some questions for the panel
Mandatory Vaccination

• Omer et al in Vaccine Refusal, Mandatory Immunization and the risks of Vaccine –Preventable Diseases: increasing vaccine refusal and measles and pertussis outbreaks in areas with clusters of vaccine refusals. Children too young to be vaccinated, those who cannot be vaccinated for medical reasons, those vaccinated but who did not develop a sufficient immunological response are then at increased risk of infection

• HPV Vaccination Mandates- Lawmaking amid Political and Scientific Controversy Colgrove et al N ENGL J MED 2010 363:8: 785-791
  – Factors against mandates included newness of the vaccine, sexually transmitted nature of HPV, Non transmissability of HPV in the classroom setting, discomfort with the Manufacturers involvement, price of the vaccine, antipathy towards governmental coercion, antivaccination activism and the nature of the policy making process
Mandatory Vaccination

- Mandatory Influenza Vaccination of Health Care Workers: Translating Policy to Practice
  - A mandatory influenza vaccination campaign successfully increased vaccination rates.
    - Babcock et al Clinical Infectious Diseases 2010; 50:459–64
- Mandatory Vaccination of Health Care Workers
  - Alexandra M Stewart discusses tensions between mandatory requirement and civil liberties of HCWs
Media
Friend or Foe?
Vaccine Junkies
Mass immunization campaigns are provoking unprecedented criticism

Miracle Vaccines
New ways to fight earaches, the flu, strep throat—and maybe even cancer
EXCLUSIVE: Investigating the Embassy Bombings
Dumbing Down the Military
Probe into meningitis vaccine after 11 babies die

by Carl O'Brien

A MENINGITIS vaccine due for use in Ireland has been linked to autism. Officially said the deaths were linked to heart conditions and not deaths. The meningitis jab immunizes young children against the Group C strain of the disease, which is responsible for around one-third of cases.

Under the Irish campaign, the vaccine will be added to the childhood immunisation programme, which is administered to babies at two, four and six months of age. It will be given to pre-school children and teenagers in the 15-18 age group as part of a catch-up programme.

However, the Irish Medicines Network has called on the Government to provide parents with all information regarding the risks associated with the vaccine so they can make a balanced judgment.

The British Government has been accused of covering up the deaths, but a spokesman said it was not to blame. For fear of pressuring parents into withdrawing their children from inoculations, already, some 448 cases of meningitis have been reported in Ireland between January and July of this year, according to the Meningitis Research Foundation.

The killer disease claimed seven lives in the first month of this year alone — over half the total deaths from the disease in 1999.

The Southern Health Board has had four suspected cases this month, including that of a 16-year-old Cork girl who died in hospital last week. A County Cork boy admitted earlier this month to Cork University Hospital with the C-strain of meningococcal disease — more common in the SEH region this year than the more usual B strain — is still being treated.

The most common symptoms of the disease in babies are high temperature, refusal to feed, difficulty in waking, a high-pitched or moaning cry, and a rash of red or purple spots which can materialise very quickly.

In adults, a delicate of bright lights, and dizziness or coma, are the main symptoms seen in children and adults infected with meningococcal disease.

The Meningitis Research Foundation has set up a 24-hour help line: Tel: 01- 4966563.
the cold hard facts” immunisation and vaccine preventable diseases in Australia’s newsprint media 1993-1998

- Majority of articles are normative or promotional with only 5% being oppositional
- Quoted US workshop on vaccine risk communication: credible sources, be personally relevant, account for how information is framed, address concerns about safety, avoid threats of mandatory vaccination, and avoid using the issue as a political device
- Band wagoning: public health programmes should stress high vaccination rates rather than lamenting low rates
Challenges for journalists

• “Main challenge is not to get the science across to the reader but to sell the story to the news editor” “Remember the mass media are 95% entertainment and 5% education

Role of Incentives

- In 1998, Australia enacted comprehensive national legislation making receipt of the maternity immunisation allowance (MIA) and the child care benefit (CCB) conditional on evidence of age-appropriate immunisation. The use of legislated financial immunisation incentives for parents appears to be widely accepted among Australian parents and to have had an impact on immunisation uptake.

- Of the eight incentives examined, four referred to non-financial incentives such as food vouchers and four to monetary incentives for parents (1) or providers (3). Groups receiving the incentives were up to three times more likely to be immunised and had overall immunisation rates up to 17% higher than comparison groups.
"I'm sure you'll agree, we don't want an epidemic."
Most people recognized immunisation as a good thing, recognized the benefits of herd immunity and would immunize their child in the future but significant minority had doubts - English most doubtful (28%) while Swedish and Spanish reported the least doubt (17 and 12%).

In all countries health professionals were most important and trusted source of information.

Recommend attitudinal vaccine surveys routinely applied every 1-5 years.
The role of the Anti-vaccinationists

Falsehood flies and truth comes limping after, so that when men come to be undeceived it is too late, the jest is over and the tale has had its effect

Jonathan Swift
1667-1745

We are so constituted that we believe the most incredible things; and, once they are engraved upon the memory, woe to him who would endeavour to erase them

Goethe 1749 -1832
The role of Celebrity

• Couple Jim Carrey and Jenny McCarthy, were on Capitol Hill in Washington, Wednesday, June 4, 2008, at a rally calling for the elimination of toxins from children's vaccines. Wearing shirts that read "Green Our Vaccines," the pair held pictures of Evan as well. McCarthy, who has written a book about her experience parenting an autistic son, has long believed his childhood immunizations triggered his condition.

• Huffington Post
  • 4 Jun 2008
Framing the message

TOO MANY TOO SOON

Vaccine Ingredients:
mercury, aluminum, antifreeze, formaldehyde,
aborted human fetus cells, chick embryos,
monkey kidney cells, fetal bovine serum, etc.

www.safevaccines.org
The Age-old struggle against the Antivaccinationists

Gregory Poland and Robert Jacobsen Mayo clinic

• Spectrum ranges from those who are simply ignorant about science (innumerate) to a radical fringe who use deliberate mis-truths, intimidation, falsified data and threats of violence in efforts to prevent the use of vaccines
• Anti-vaccinationists tend towards complete mistrust of government, conspiratorial thinking, denialism, habit of substituting emotional anecdotes for data
• Advise continue to fund and publish high quality studies to investigate concerns about vaccine safety
• Improve monitoring programmes such as VAERS
• Make compensation available to anyone who is legitimately injured by a vaccine
• Enhance public education and public persuasion, improving scientific literacy at all levels of education
• Develop accurate vaccine information in multiple languages on a range of reading levels and through various media
Social mobilisation campaigns

- To counter the potential negative impact of misinformation, rumours and other misconceptions, well targeted information and social mobilisation campaigns are required to transform passive acceptance of immunisation into a well informed demand for vaccines that can protect against life threatening diseases.

  - WHO State of the world’s vaccines and immunization 3rd edition WHO 2009

- Betsch clearly described the influence of antivaccination websites, outlined the increasing use of internet searches and peer to peer forums and urged greater multidisciplinary research

Channel

• As important as the message
• Television, radio, magazines, newspapers, internet, social media
• Some countries now have information for producers, writers to use in story lines in entertainment shows (behaviour is learnt through modelling)
• Need to find the best channel also for reaching underserved or marginalised populations
Thimerosal and vaccines – A Cautionary Tale (of how not to communicate)

Paul Offit N ENGL J MED 2007 357;13: 1278-1279

• In 1997 FDA required to compile a list of foods and drugs containing mercury - in 1999 found by 6 months of age infants could receive as much as 75 micrograms
• CDC and AAP on precautionary basis advised removing thimerosal from vaccines as quickly as possible
• In 2004 studies in UK no evidence of harm
• Alarm and concern caused by removal has been harmful
  – 3/12 old baby died in Michigan with overwhelming Hep B infection
  – Cottage industry of charlatans offering false hope for autism in the form of mercury chelating agents
  – Death of 5 year old boy in Pittsburgh after injection of EDTA as chelating agent
The role of Schools

- In Vaccination – Knowledge and Attitudes of School Children. Laura Brown surveyed teenagers on their knowledge and attitudes to vaccination. 86% considered themselves inadequately informed about vaccines and vaccine preventable diseases. Irish Medical Journal. 2009 Feb;102(2):45-7

- Rand et al looked at practical considerations for vaccine communication and parent and adolescent perspectives. Vaccine 29(2011) 7651-7658
  - They recommend that schools play an increasing role in educating adolescents to understand risks and benefits of vaccination and are an ideal place for adolescents to begin acting as active participants in their own care.
ECDC technical report
A literature review of trust and reputation management in communicable disease public health
September 2011

• Call for long term and proactive planning of trust and reputation management
• Strong media relations skills
• Proactive relationship building with key stakeholders
• Integration with technical disease prevention and control functions
• Enhanced commitment to transparency and two way dialogues
• Differentiates between crisis and risk communication
• Public not homogenous group and the challenge is to meet the needs of different groups
• The application of audience segmentation techniques, creating specific approaches and messages for audiences with different social, cultural and demographic characteristics
Addressing the vaccine confidence gap

- Several factors drive concerns: perceptions of business/financial motives of vaccine industry, coincidental rather than causal adverse events, communication of uncertainty about risks, less risk tolerance for vaccines given to healthy, scepticism of scientific truths, elitism of a group of people who don’t think they should risk vaccination if enough other children are vaccinated, outright non acceptance of scientific evidence

- A thorough understanding is needed of the populations or subpopulations specific concerns

- Need to engage, be transparent, honest and open about uncertainty and risk
Narrative vs Evidence – Based Medicine – And, Not Or

Zachary Meisel and Jason Karlawish JAMA 2011 306: 2022- 2023

- Stories are an essential part of how individuals understand and use evidence
- Use as tools to translate science without introducing anecdotal bias
- Facts and figures are essential but insufficient to promote acceptance of evidenced based practices
- Narratives in the form of story telling about individual real people, testimonials and entertainment have been shown to improve individual behaviour in multiple settings
  - Eg Child with SSPE on Irish television programme
- Using graphics, visual aid, analogies and narratives (eg personal stories) can increase a person’s ability to hear, understand and recall a message by 50% (OK to use emotion as well as rationality)
The next decade of vaccines: societal and scientific challenges
Richard Moxon and Claire-Anne Siegrist Lancet 2011; 378:: 348-59

- Although science is key to novel vaccines, it is not sufficient; the next decade demands that we also build public trust and confidence through effective communication with policy makers and the public.
- Misinformation needs to be countered urgently to help vaccine recipients seek reliable facts and trust health professionals.
- Need eclectic range of expertise: anthropologists, social scientists and evolutionary biologists.
- Information should be systematic, comprehensive and credible.
- New challenges will arise with personalised genetic driven strategies.
There can be no safety without risk

- Aaron Wildavsky 1988

- It is crucial that the medical community in general and vaccine establishment in particular work to better educate the public to the fact that virtually all beneficial interventions including vaccination come with some risk and that the key issue is to ensure that the ratio of benefit to risk is most favourable.

Risk perception, Risk Management and safety assessment: What can governments do to increase public confidence in their vaccine system?

MacDonald et al  Biologicals 2011  In press

- Heuristics: cognitive shortcuts that simplify complex decisions and judgement to assess risk. Act at unconscious level
- Eg Availability: judge an event as frequent or likely to occur if can easily imagine or recall it eg has seen child with autism but cannot recall seeing child with measles
- Advise should use recent examples of Polio in Tijikistan, pertussis infant deaths in California, painful complications in recent mumps outbreaks to publicize the imperative of vaccination and implant the seriousness of these diseases
Resources

• Give a man a fish; feed him for a day. Teach him how to fish; feed him for a lifetime.

• By providing patients with information that they need to make decisions today, as well as educating them to analyse and interpret misinformation in the future you provide a timeless resource.

• Do vaccines Cause that? A guide for evaluating Vaccine Safety concerns Martin Myers and Dinego Pineda.

• Vaccines and your child. Separating Fact from Fiction Paul Offit and Charlotte Moser.

• Deadly Choices How the antivaccine movement threatens us all Paul Offit.

• Paediatrics 2008; ;122;871.
Q1: What do you do with your own children? Should doctors/politicians answer this?

- Blair should tell the truth on MMR jab says Carol Vorderman
Q2 how do we limit contradictory statements from experts?

- Need proactive discussions with frequently used “talking heads”
- Acknowledge opinion diversity
  - While message consistency ideal, diversity most harmful if spokespersons unaware or contemptuous of other views
Conclusions (1)

• While vaccine scares come and go, antivaccinationists remain – there will be new scares and new challenges – our challenge is to restrict their influence
• Decreasing emphasis on mandatory vaccination and increasing use of evidence based methods and tools to assure demand for vaccines
• Should mandatory requirements be reserved for a restricted number of vaccines eg Influenza vaccine in HCWs?
• Need to move to greater use of narratives informed by multidisciplinary research
• Shifting resources and attention to proactively shaping public vaccine beliefs will take leadership and new partnerships
Conclusions (2)

% Immunisation uptake at 24 months
Quarter/Year
MMR1

Graph showing the percentage of immunisation uptake at 24 months from Q1 1999 to Q1 2011.