Vaccines and society

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Only clean water has had a bigger impact in public health history.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Pre-Vaccine Era</th>
<th>% Decrease</th>
<th>Most Recent Reports of Cases in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria</td>
<td>351,053</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>H. Influenza</td>
<td>36,000</td>
<td>99%</td>
<td>343</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>177,803</td>
<td>91%</td>
<td>11,049</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>46,252</td>
<td>83%</td>
<td>11,249</td>
</tr>
<tr>
<td>Measles</td>
<td>1,033,319</td>
<td>99%</td>
<td>11</td>
</tr>
<tr>
<td>Mumps</td>
<td>162,344</td>
<td>99%</td>
<td>982</td>
</tr>
<tr>
<td>Pertussis</td>
<td>264,792</td>
<td>93%</td>
<td>13,306</td>
</tr>
<tr>
<td>Pneumococcal Disease</td>
<td>11,097</td>
<td>74%</td>
<td>4,167</td>
</tr>
<tr>
<td>Polio</td>
<td>16,216</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Rubella</td>
<td>54,265</td>
<td>99%</td>
<td>2</td>
</tr>
<tr>
<td>Congenital Rubella</td>
<td>152</td>
<td>99%</td>
<td>11</td>
</tr>
<tr>
<td>Smallpox</td>
<td>27,063</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Tetanus</td>
<td>3,960</td>
<td>96%</td>
<td>14</td>
</tr>
<tr>
<td>Varicella</td>
<td>4,083,120</td>
<td>89%</td>
<td>449,343</td>
</tr>
</tbody>
</table>

2010 data

Infographic by Leon Farrant
Beware! The Vaccine
From a French caricature of the XVIII century
http://www.thedailybeast.com/articles/2014/10/05/george-washington-the-first-vaxxer.html
Vaccination against Smallpox. Mercenary & Merciless spreaders of Death & Distress driven out of Society!
18th and 19th century objections to vaccines

- Unclean/Un-Christian
- Distrust of medicine
- Etiology of disease incorrect
- Violation of personal liberty
Anti-vaccine sentiment of the 20th century

The Anti-Vaccination Society of America

Otherwise

An Association of “half-mad”, “misguided” people, who write, and toil, and dream, of a time to come, when it shall be lawful to retain intact, the pure body Mother Nature gave, sends greeting to a “suspect”. “Liberty cannot be given, it must be taken.”

You are Invited to Join Us

Frank D Blue, Sec’y, Terre Haute, Ind. 1902

Hon L H Piehn, President

Enclose 25c for certificate of membership.
Objections to vaccines in the 21st century

19th century
• Unclean/Un-Christian
• Distrust of medicine
• Etiology of disease incorrect
• Violation of personal liberty

21st century

Is this the reason why we have so much autoimmune disease?

HUMAN DNA FROM
ABORTED FETAL TISSUE
= IS = IN VACCINES!

"Most people will find it hard to believe that human DNA is contained in up to 23 different vaccines due to the fact that a lot of the viruses are grown on aborted fetal tissue. As a result of the viruses being grown on ABORTED FETAL TISSUE it is nearly impossible to separate residue from the fetuses completely from the vaccines." TheLibertyBeacon.com

'Human DNA From Aborted Fetuses In Vaccines'
Published February 7, 2013.
Objections to vaccines in the 21st century

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- Objections to vaccines in the 21st century

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21st century
Lack of trust in expertise and institutions

Who opposes vaccination?

"Leaders"

Figure 1 from Gowda and Dempsey (2013)
Vaccine hesitant parents: It’s all about fear
The backfire effect

“...once you believe something untrue, it's very easy to keep rationalizing that belief. It's very easy to dismiss your critics as shortsighted. And when you're constantly attacked, it's natural to make your resilience part of your identity, to become even more committed to maintaining it.”

--Adam Mongrain, Vox (2015)
“I felt like I had discovered this wealth of information that the world around me didn’t know. I was Charlie Bucket and I had the golden ticket to keeping my family healthy.”

http://www.voicesforvaccines.org/i-was-duped-by-the-anti-vaccine-movement/
“Since I closed my practice to parents who don’t follow the schedule, I found a large percentage of the vaccine hesitant ones suddenly wanted to catch up. They told me that my choice to enforce this strictly convinced them more than anything that I truly believed in the science”—my pediatrician (paraphrased).
• Significantly fewer routine care visits than fully vaccinated families

• No significant difference in rates of acute or emergency visits
Parents may get the best information from their healthcare provider. But the people in their social networks are more influential.

In a recent study, the best predictor of whether a parent would vaccinate was how strongly their “people network” recommended against it.
PEER COMMUNICATION

Not the same as provider communication

Not about a power dynamic, expertise or authority

Not about providing facts

Not looking for an immediate agreement
QUESTIONS

Ask to understand

Open-ended questions

Again, be a mirror: reflective listening

Use silence...
Community and communication

• Acknowledge and empathize with their perspective.
• Don’t rely on (or fall for) scare tactics
• Emphasize the benefits of vaccination
  – Stories matter!
• Don’t use pressure tactics, but supply information if asked.
Ask open-ended questions and reflect the answer back:

What convinced you not to vaccinate?  
So if I understand you right, you think the risks outweigh the benefits?

Use the answer to lead into follow up questions:

What harms are you worried about?  
It sounds like you’re mostly worried about autism and heavy metals. Is that right?

Go back to questions to make sure you understood everything:

What benefits do you think you’re passing up?  
Just to make sure I understand, you think vaccines would protect your baby from disease, but that it’s not worth the risk of autism?
INFORMATION

Be relevant
Be accurate
Be patient
Defend expertise
Show them how you weed out bad information
Case studies
THE INFORMED PARENT
A Science-Based Resource for Your Child's First Four Years

TARA HAELE and EMILY WILLINGHAM, PhD
The most important conversation is the one that works.