Should we fire healthcare workers who decline vaccination?

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conflicts of interest

The speaker

- has conducted research on vaccines and VPDs supported, through his University, by the pharmaceutical industry

- is a clinician
Warning!

This issue has been controversial for >2 centuries and, most probably, will remain so for the decades to come.

However, decisions on policies are made in the present time.

A better understanding might contribute to wiser decisions.
Edward A Jenner’s findings were published in 1798 and within 2 decades had been translated into many languages including Japanese.

The Cow Pock or the wonderful effects of the new inoculation
Etching by James Gillray, 1802. The Welcome Library
a recently emerging issue, as usual?

1st mandatory vaccination law, MA 1809:
“Boards of health, if in their opinion it is necessary for public health or safety, shall require and enforce the vaccination and revaccination of all the inhabitants of their towns, and shall provide them with the means of free vaccination. Whoever refuses or neglects to comply with such requirements shall forfeit five dollars”

US Supreme Court, 1905, Johnson v. MA: “the state could not require vaccination in order to protect an individual, but it could do so to protect the public”

The British Vaccination Act of 1840:
first incursion into civil liberties, in the name of public health

British Law, 1898: concept of "conscientious objector" introduced for parents objecting to smallpox vaccine for their children
Sweden, 19th century, smallpox vaccination uptake rates:

Initially high, but later on

- 90% for the rest of Sweden
- falling to ~40% for Stockholm by 1872

Dr CA Grähs, the city chief physician, asked for stricter measures

Dr Grähs was right: Stockholm suffered an epidemic in 1874

Widespread vaccination followed; no further epidemics

are vaccines good?

yes

✓ global eradication of smallpox ✓ near eradication of polio
what motivates us to vaccination?

<table>
<thead>
<tr>
<th>Incentive</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self interest</strong></td>
<td>tetanus</td>
</tr>
<tr>
<td><strong>The common good</strong></td>
<td></td>
</tr>
<tr>
<td>▪ elimination of a disease</td>
<td>rubella</td>
</tr>
<tr>
<td>▪ herd immunity</td>
<td>smallpox</td>
</tr>
<tr>
<td>▪ protection of community</td>
<td>polio</td>
</tr>
<tr>
<td><strong>Protection of the vulnerable</strong></td>
<td>influenza</td>
</tr>
<tr>
<td>▪ cocooning</td>
<td>pertussis</td>
</tr>
<tr>
<td>▪ ring protection</td>
<td>varicella</td>
</tr>
</tbody>
</table>
are HCWs a high-risk group?

Yes

HCWs at high risk of
- **contracting** infections at work
- **transmitting** infections to colleagues and patients

Immunity would
- block transmission
- protect the HCW
- protect patients and colleagues
why do we decline vaccination?

HCW
- medical contra-indications
- religious reasons
- conscientious objection
- inconvenience, needle phobia

Disease
- is very rare nowadays / forgotten
- is mild, may be useful
- I will not get / transmit the disease

Vaccine
- costly / not easily accessible
- not effective
- not safe / may cause the disease

HCWs response to vaccination
- Yes
- No, medical
- No, religious
- No, conscientious
**are European HCWs vaccinated?**

could be better

<table>
<thead>
<tr>
<th>Setting</th>
<th>Immunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK. Hospital-based HCWs [1]</td>
<td>A(H1N1)pdm09 13%</td>
</tr>
<tr>
<td>France. Paed and Med wards [3]</td>
<td>Flu 50% physicians, 20% other HCWs</td>
</tr>
<tr>
<td>Germany. Telephone survey [4]</td>
<td>Flu 30% 2008/9, flu 26% 2010/11, A(H1N1)pdm09 16%</td>
</tr>
<tr>
<td>Greece. Paed wards [5]</td>
<td>Flu &gt;5 doses 10%, measles all doses 33%, DiTe all doses 36%</td>
</tr>
<tr>
<td>Portugal. Hospital employees [6]</td>
<td>Flu 50%, A(H1N1)pdm09 31%</td>
</tr>
</tbody>
</table>

Policies?

Vaccination policy options
- Voluntary, simple
  - Voluntary, promoted
    - Mandatory, declination
      - Mandatory, enforced

Enforcement
- no contact to patients
- masks and prophylaxis
- marked badges
- holding checks
- fines
- firing: not fit for job/practice
are mandates fair?

Mandatory HCW vaccination: prerequisites

☐ are vaccines good for HCWs?

☐ are immune HCWs good for patients?

☐ have voluntary policies failed?

☐ have mandatory policies performed better?

☐ are exemptions/penalties fair and well defined?
are vaccines good for HCWs?

yes

Cost-benefit  reasonable, shown for flu vaccine

Effective  particularly in healthy adults
not always 100%, but still effective

Safe  considerable side effects rare, but
need to be taken into consideration
? the narcolepsy issue
are immune HCWs good for patients?

yes (?)

All studies, including RCTs\(^1\)\(^-\)\(^4\) for seasonal flu, have concluded so

But

- 3 systematic reviews\(^5\)\(^-\)\(^7\) did not provide credible evidence
- lack of data for other settings, HCW groups, diseases

Which way out?

? need for further studies, but is this ethical?
? should we better rely on common sense?

**have voluntary programmes failed?**

**yes, more or less**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Uptake rates stagnated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seasonal flu</td>
<td>USA &lt;50%, rarely 60% - 70%</td>
</tr>
<tr>
<td></td>
<td>Europe &lt;35%, often &lt;25%</td>
</tr>
<tr>
<td>A(H1N1)09</td>
<td>13% - 83%</td>
</tr>
<tr>
<td>Measles</td>
<td>Susceptible HCWs in EU : 3% - 17%</td>
</tr>
<tr>
<td>Pertussis</td>
<td>Not better, studies?</td>
</tr>
</tbody>
</table>

HCWs occasionally reluctant to preventive measures
have mandates done better?

yes

Virginia Mason Med Center, Seattle \[\textsuperscript{[1]}\]

\begin{tabular}{l|c}
2002-2004 & 2005-2009 \\
29-54\% & 97-99\% \\
\end{tabular}

Elsewhere in USA

\begin{tabular}{l|c}
69-71\% & 96-98\% \\
\end{tabular}

Results promising but may not be replicable everywhere

<table>
<thead>
<tr>
<th>Target population</th>
<th>Debate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All individuals</td>
<td>plenty</td>
</tr>
<tr>
<td>Children</td>
<td>very long</td>
</tr>
<tr>
<td>Travelers etc</td>
<td>no</td>
</tr>
<tr>
<td>HCWs - newcomers</td>
<td>no</td>
</tr>
<tr>
<td>HCWs - employed</td>
<td>plenty</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle</th>
<th>mandatory - against</th>
<th>mandatory - for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>No one has the authority to force people to take drugs or vaccines</td>
<td>Restrictions are reasonable, if it is to harm others by infecting them</td>
</tr>
<tr>
<td>Beneficence</td>
<td>Doing good is not protecting some by harming others</td>
<td>HCWs ought accept a minimal risk, if it is to benefit patients</td>
</tr>
<tr>
<td>Non-maleficence</td>
<td>Unclear to what extend non-immune HCWs harm patients</td>
<td>Any vaccine-preventable harm is unacceptable</td>
</tr>
<tr>
<td>Justice</td>
<td>Unfair for HCWs to be treated in a different way</td>
<td>Unfair for non-immune patients to be treated by infectious HCWs</td>
</tr>
<tr>
<td>Deontology</td>
<td>Unfair to use persons as a means to good ends</td>
<td>The key virtue for healers is &quot;do no harm&quot;</td>
</tr>
</tbody>
</table>
Professional Ethics

Professional societies: duty to
- guide members on obligations and responsibilities
- meet public trust: HCWs ought not appear to suggest vaccines but avoid them themselves

Free choice of HCW profession:
- assumes some personal risk
- makes exemptions questionable

“You should protect your patients, your colleagues and yourself by being immunised against serious communicable diseases where vaccines are available“ [GMC 2012]

“Physicians have an obligation to:
(a) accept immunization ..
(b) accept a decision .. to adjust practice activities if not immunized“ [AMA 2010]
### Institutions: the duty to
- protect patients-residents
- reduce costs from outbreaks
- meet the public trust
- keep working in outbreaks

**hence to**
- achieve adequate rates by taking the issue seriously adopting the best policy

### Public health: targets
- community rather than individuals
- safety rather than liberty

### Terminology
- dominated by *herd immunity* - *ring protection* - *cocooning* - *no free riders* - *shield wall* - *barriers*
- rather than *autonomy* - *freedom*
### policies and practicalities

<table>
<thead>
<tr>
<th>Argument</th>
<th>mandatory - against</th>
<th>mandatory - for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit</td>
<td>No solid evidence for patients</td>
<td>Benefit difficult to be studied</td>
</tr>
<tr>
<td>Uptake</td>
<td>Voluntary not trivial; can be higher</td>
<td>High rates only with mandates</td>
</tr>
<tr>
<td>Coercion</td>
<td>Penalties devalue allies</td>
<td>Rules need not be seen as coercion</td>
</tr>
<tr>
<td>Trust</td>
<td>HCWs are trusted to more critical decisions</td>
<td>Rules facilitate a fair policy; it’s not about trust</td>
</tr>
<tr>
<td>Consensus</td>
<td>Works better</td>
<td>Has failed</td>
</tr>
</tbody>
</table>
concluding questions

Should we fire healthcare workers who decline vaccination?

Is it a duty for a HCW not to transmit a vaccine-preventable disease to a patient?

Is it a duty for a health authority not to accept HCWs, who may transmit vaccine-preventable diseases to patients?