

La vaccination universelle contre l'influenza: an evidence-based approach

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Évaluation des technologies et prise de décision en vaccination
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www.inspq.qc.ca/jasp

Warning!

My comments relate to an
“average” influenza season, **not to**
pandemics

Decision-making perspectives

- Burden
- Vaccine efficacy/effectiveness
- Safety
- Economics
- Political

UK GPRD (1991-96)

(from Meier et al 2000)

Complication	“Healthy” study population (n=10,145)	
	Yes	No
Respiratory tract	836 (8.2)	9326 (91.9)
Bronchitis	273 (2.7)	9872 (97.3)
Pneumonia	106 (1.0)	10,039 (99.0)
Unsp. resp. inf.	457 (4.5)	9688 (95.5)
Cardiac	9 (0.1)	10,136 (99.9)
CNS	21(0.2)	10,124 (99.8)
Renal	5 (0.1)	10,140 (99.9)
Else	195 (1.9)	9950 (98.1)
Otitis media	21 (0.2)	10,124 (99.8)
GI-bleeding	21 (0.2)	10,124 (99.8)
Death	110 (1.1)	10,035 (98.9)
Total	1049 (9.7)	9164 (90.3)

Granny test

How many of you have had granny complaining that she had been vaccinated but still got influenza?

Causal agents of ILI in the Turku (n=200) and Leicestershire (n= 291) studies

Cause	No. of serotypes	% of students in Turku positive by causal agent	% of elderly in Leics. positive by causal agent
<i>Rhinov</i>	100+	52.5	29.4
<i>Inf A virus</i>	1	5	6.5*
<i>Inf B virus</i>	1	1	6.5*
<i>Adenov</i>	31+	1	-
<i>Parainf</i>	1-4	3.5	-
<i>RSV</i>	2	2	3.7
<i>Enterov</i>	70+	2	-
<i>Coronav</i>	2+	8.5	14.4
<i>C pneum.</i>	-	2	-
<i>M pneum</i>	-	0.5	-
<i>Pneum</i>	-	0.5	-
<i>HiB</i>	-	0.5	-
Mixed infection	-	3	NK
Unknown	-	30.5	46

Influenza A/B isolates as a percentage of all samples(UK 1972-74)

Age group	1972	1973	1974
0-14	7%	7.8%	7.6%
15-44	11%	7.4%	7.6%
45+	11.7%	8.1%	9.3%
All ages	9.2%	7.7%	7.8%

Public Health Laboratory Service Standing Advisory Committee on Influenza. Influenza surveillance 1972-75J-Hyg-Lond 1977; 78(2):223-33.

Respiratory virus detections/isolations

- <http://www.hc-sc.gc.ca/pphb-dgspssp/bid-bmi/dsd-dsm/rvdi-divr/index.html>
- <http://www.inspq.qc.ca/lspq/influenza/default.asp?A=5>
- Week ending 9 Novemb 2002.

(with thanks to Maryse Guay MD)

Influenza A/B isolates as a percentage of all
samples (Italy 2001-2002)

$$354/1714 = 20.6\%$$

Influenza vaccines vs Placebo

Meta-analysis results - at least one WHO recommended strain
Demicheli et al, Cochrane Library 2002

Measure	Effectiveness	Efficacy
Estimate	19% (25% - 13%)	68% (79% -49%)
Denominator	8,751	1,704

Influenza vaccines vs Placebo

Meta-analysis results - at least one WHO recommended strain
Demicheli et al, Cochrane Library 2002

Measure	Working days lost
Estimate	-0.338 (-0.448 to 0.227)
Denominator	4445

Evidence on efficacy of vaccines points to:

- Uncertain epidemiology, retrospective impact assessment
- Scant evidence on children,
- Scant randomised evidence on elderly
- Efficacy \neq effectiveness in adults
- Certain costs, uncertain benefits of universal programme

Conclusions

- Need for:
better surveillance
more clarity
systematic reviews of the evidence
- Throwing money at the problem is not going to solve it