Discussing vaccination strategies with hesitant parents

Nov 2022
J Pernica
Faculty disclosure – J Pernica

• Relationships with financial sponsors:
  o Grants paid to academic institution:
    • MedImmune, bioMérieux
  o Speakers bureau:
    • none (besides Canadian Paediatric Review)
  o Consulting fees: none
  o Patents: none
  o Other: none
Vaccine hesitancy in the pre-COVID19 period
Scientists Thought They Had Measles Cornered. They Were Wrong.

By Donald G. McNeil Jr.

April 3, 2019

Leer en español

The measles outbreak that led to a state of emergency in New York’s Rockland County began far away: in an annual Hasidic pilgrimage from Israel to Ukraine.
How many children in Ontario were not ‘up-to-date’ with vaccines?
Immunization Coverage Report for School Pupils in Ontario

2017–18 School Year
Provincial immunization coverage for school-based programs

- Meningococcal disease: 82.4%
- Hepatitis B: 69.2%
- HPV: 59.9%

Grade 7 students
Figure 2. Immunization coverage in Ontario among children 7 years old: 2017–18 school year

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>2017-18</th>
<th>PHU min.</th>
<th>PHU max.</th>
<th>National Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meas</td>
<td>87.6</td>
<td>72.6</td>
<td>96.8</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mumps</td>
<td>87.4</td>
<td>72.4</td>
<td>96.8</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rubella</td>
<td>96.4</td>
<td>91.6</td>
<td>98.5</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Dip</td>
<td>85.9</td>
<td>68.9</td>
<td>96.5</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tet</td>
<td>85.9</td>
<td>68.9</td>
<td>96.5</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Polio</td>
<td>86.3</td>
<td>68.6</td>
<td>96.6</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Pertuss</td>
<td>85.8</td>
<td>68.5</td>
<td>96.5</td>
<td>95.0&lt;sup&gt;A&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hib</td>
<td>82.4</td>
<td>75.9</td>
<td>93.7</td>
<td>95.0&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td>Pneum</td>
<td>74.1</td>
<td>67.2</td>
<td>91.2</td>
<td>95.0&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td>MCC</td>
<td>94.7</td>
<td>87.4</td>
<td>98.2</td>
<td>95.0&lt;sup&gt;B&lt;/sup&gt;</td>
</tr>
<tr>
<td>Var</td>
<td>82.6</td>
<td>61.7</td>
<td>95.4</td>
<td>95.0&lt;sup&gt;C&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Figure 3. Immunization coverage in Ontario among children 17 years old: 2017–18 school year

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>2017-18</th>
<th>PHU min.</th>
<th>PHU max.</th>
<th>National Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles</td>
<td>95.3</td>
<td>89.2</td>
<td>99.4</td>
<td>95.0</td>
</tr>
<tr>
<td>Mumps</td>
<td>95.0</td>
<td>89.2</td>
<td>99.4</td>
<td>95.0</td>
</tr>
<tr>
<td>Rubella</td>
<td>97.1</td>
<td>92.0</td>
<td>99.7</td>
<td>95.0</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>76.8</td>
<td>57.7</td>
<td>90.9</td>
<td>90.0</td>
</tr>
<tr>
<td>Tetanus</td>
<td>76.9</td>
<td>57.8</td>
<td>90.9</td>
<td>90.0</td>
</tr>
<tr>
<td>Polio</td>
<td>93.5</td>
<td>88.4</td>
<td>99.4</td>
<td>95.0</td>
</tr>
<tr>
<td>Pertussis</td>
<td>72.1</td>
<td>55.6</td>
<td>89.4</td>
<td>90.0</td>
</tr>
</tbody>
</table>
Figure 7. Immunization coverage in Ontario for measles among children 17 years old by public health unit: 2017–18 school year*
WHY do children not get vaccinated?

- caregivers unable to access medical care
  - lack of primary care provider
  - difficulties reaching primary care provider
  - lack of OHIP coverage
  - poor rapport with primary care provider
- caregivers forget about issue
- medical contraindication to vaccinations
  - true vs. perceived
Figure 12. Immunization exemptions for ISPA designated diseases in Ontario among children 7 years old: 2017–18 school year

- Measles: 2.5% non-medical, 0.3% medical
- Mumps: 2.5% non-medical, 0.3% medical
- Rubella: 2.5% non-medical, 0.3% medical
- Diphtheria: 2.5% non-medical, 0.1% medical
- Tetanus: 2.5% non-medical, 0.1% medical
- Polio: 2.5% non-medical, 0.1% medical
- Pertussis: 2.5% non-medical, 0.1% medical
- MCC: 2.5% non-medical, 0.5% medical
- Varicella: 2.7% non-medical, 0.3% medical
WHY do children not get vaccinated?

• caregivers unable to access medical care
  o lack of primary care provider
  o difficulties reaching primary care provider
  o lack of OHIP coverage
  o poor rapport with primary care provider
• caregivers/care providers forget about issue
• medical contraindication to vaccinations
  o true vs. perceived
• vaccine hesitancy (intentional delay or refusal despite availability and lack of true contraindication)
Vaccine Hesitancy
The most important thing to do is LISTEN.

- ‘Could you tell me a little more about that?’
  - do they have references/literature?
- this obviously only works if the caregivers are in the right frame of mind…
- there are some common themes seen in many of these conversations:
1. Post hoc ergo propter hoc
I used to think correlation implied causation.

Then I took a statistics class. Now I don't.

Sounds like the class helped. Well, maybe.
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Events in risk interval (events/million person-years)</th>
<th>Events in comparison interval (events/million person-years)</th>
<th>Adjusted rate ratio (95% CI)</th>
<th>P value</th>
<th>Signal, 1-sided P &lt; .0048</th>
<th>Excess cases in risk interval per million doses (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrombotic thrombocytopenic purpura</td>
<td>6 (9.1)</td>
<td>2 (5.5)</td>
<td>2.60 (0.47-20.66)</td>
<td>.29</td>
<td>.23</td>
<td>0.3 (-0.6 to 0.5)</td>
</tr>
<tr>
<td>Cerebral venous sinus thrombosis&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7 (10.6)</td>
<td>3 (8.2)</td>
<td>1.55 (0.37-8.17)</td>
<td>.59</td>
<td>.41</td>
<td>0.2 (-1.1 to 0.5)</td>
</tr>
<tr>
<td>Transverse myelitis&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2 (3.0)</td>
<td>1 (2.7)</td>
<td>1.45 (0.10-47.73)</td>
<td>.82</td>
<td>.64</td>
<td>0.1 (-1.6 to 0.2)</td>
</tr>
<tr>
<td>Encephalitis/myelitis/encephalomyelitis</td>
<td>16 (25.7)</td>
<td>5 (13.7)</td>
<td>1.27 (0.45-4.10)</td>
<td>.69</td>
<td>.44</td>
<td>0.3 (-1.8 to 1.1)</td>
</tr>
<tr>
<td>Myocarditis/pericarditis</td>
<td>87 (131.7)</td>
<td>39 (106.9)</td>
<td>1.18 (0.79-1.79)</td>
<td>.44</td>
<td>.25</td>
<td>1.2 (-2.1 to 3.3)</td>
</tr>
<tr>
<td>Venous thromboembolism</td>
<td>626 (951.9)</td>
<td>327 (895.9)</td>
<td>1.16 (1.00-1.34)</td>
<td>.05</td>
<td>.03</td>
<td>7.5 (-0.1 to 14.0)</td>
</tr>
<tr>
<td>Immune thrombocytopenia</td>
<td>48 (72.6)</td>
<td>23 (63.0)</td>
<td>1.12 (0.65-1.97)</td>
<td>.70</td>
<td>.40</td>
<td>0.4 (-2.2 to 2.1)</td>
</tr>
<tr>
<td>Convulsions/seizures</td>
<td>285 (431.3)</td>
<td>150 (411.0)</td>
<td>1.04 (0.84-1.29)</td>
<td>.74</td>
<td>.39</td>
<td>0.9 (-4.8 to 5.6)</td>
</tr>
<tr>
<td>Acute myocardial infarction</td>
<td>613 (935.3)</td>
<td>375 (1030.2)</td>
<td>1.02 (0.89-1.18)</td>
<td>.75</td>
<td>.39</td>
<td>1.2 (-6.9 to 8.3)</td>
</tr>
<tr>
<td>Pulmonary embolism</td>
<td>503 (762.8)</td>
<td>290 (794.6)</td>
<td>1.01 (0.86-1.19)</td>
<td>.92</td>
<td>.48</td>
<td>0.4 (-7.2 to 6.9)</td>
</tr>
<tr>
<td>Bell palsy</td>
<td>535 (821.8)</td>
<td>301 (824.7)</td>
<td>1.00 (0.86-1.17)</td>
<td>.99</td>
<td>.52</td>
<td>0.0 (-7.9 to 6.7)</td>
</tr>
<tr>
<td>Stroke, ischemic</td>
<td>1059 (1611.8)</td>
<td>650 (1780.9)</td>
<td>0.97 (0.87-1.08)</td>
<td>.61</td>
<td>.70</td>
<td>-2.7 (-13.8 to 7.2)</td>
</tr>
<tr>
<td>Stroke, hemorrhagic</td>
<td>240 (364.7)</td>
<td>149 (408.2)</td>
<td>0.90 (0.72-1.13)</td>
<td>.37</td>
<td>.83</td>
<td>-2.3 (-8.3 to 2.5)</td>
</tr>
<tr>
<td>Thrombosis with thrombocytopenia syndrome</td>
<td>73 (112.0)</td>
<td>53 (145)</td>
<td>0.86 (0.58-1.27)</td>
<td>.45</td>
<td>.81</td>
<td>-1.0 (-4.6 to 1.4)</td>
</tr>
<tr>
<td>Appendicitis</td>
<td>762 (1178.9)</td>
<td>491 (1345.2)</td>
<td>0.82 (0.73-0.93)</td>
<td>.002</td>
<td>&gt;.99</td>
<td>-14.8 (-25.5 to -5.3)</td>
</tr>
<tr>
<td>Guillain-Barré syndrome&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10 (15.1)</td>
<td>6 (16.4)</td>
<td>0.70 (0.22-2.31)</td>
<td>.53</td>
<td>.83</td>
<td>-0.4 (-3.0 to 0.5)</td>
</tr>
<tr>
<td>Disseminated intravascular coagulation</td>
<td>30 (45.4)</td>
<td>25 (68.5)</td>
<td>0.70 (0.39-1.28)</td>
<td>.25</td>
<td>.91</td>
<td>-1.1 (-4.1 to 0.6)</td>
</tr>
<tr>
<td>Kawasaki disease</td>
<td>0</td>
<td>2 (5.5)</td>
<td>0.00 (0.00-2.52)</td>
<td>.16</td>
<td>.16</td>
<td>-0.3 (-0.3 to 0.0)</td>
</tr>
<tr>
<td>Acute disseminated encephalomyelitis&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2 (3.0)</td>
<td>0</td>
<td>NE (0.07-NE)</td>
<td>.66</td>
<td>.66</td>
<td>0.2 (-2.5 to NE)</td>
</tr>
</tbody>
</table>

<sup>a</sup> Events among individuals 22-42 days after their most recent dose, 14 December 2020-26 June 2021, adjusted for age, sex, race, and geography. <sup>b</sup> Excess cases calculated using an onset period of 7-21 days post-dose.
2. ‘Compression’
Influenza risks

• 1 case of Guillain-Barre syndrome per million vaccinations

• 12 200 hospitalizations and 3500 deaths due to influenza per year in Canada
  o PLUS 17 cases of Guillain-Barre per million influenza infections!
THINKING, FAST AND SLOW

DANIEL KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

"[A] masterpiece... This is one of the greatest and most engaging collections of insights into the human mind I have read."—WILLIAM EASTERLY, Financial Times
3. Omission bias
EDITORIAL

Delaying Vaccination Is Not a Safer Choice

Kristen A. Feemster, MD, MPH, MSHPR; Paul Offit, MD
4. Medical communication
RETRACTED: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

Dr AJ Wakefield FRCS a, SH Murch MB b, A Anthony MB a, J Linnell PhD a, DM Casson MRCP b, M Malik MRCP b, M Berelowitz FRCPsych c, AP Dhillon MRCPath a, MA Thomson FRCP b, P Harvey FRCP d, A Valentine FRCR e, SE Davies MRCPath a, JA Walker-Smith FRCP a

Summary

Background
We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods
12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.
“evidence favors rejection of a causal relationship at the population level between MMR vaccine and autistic spectrum disorder...”
“the committee notes that its conclusion does not exclude the possibility that MMR vaccine could contribute to ASD in a small number of children...”
5. Perceived lack of expertise from health professionals
Common conversation topics

• how are different vaccine-preventable infections (VPIs) acquired?
• how common are the different VPIs?
• what are the consequences of infection with the different VPIs?
• what are the most common adverse events following immunization (AEFI) and what are their sequelae?
• how likely are the different AEFIs to recur?
• relative harms of vaccines vs. other medical interventions (eg. antibiotics)
6. Impact of anti-vax websites and social media
A postmodern Pandora’s box: Anti-vaccination misinformation on the Internet

Anna Kata*

Department of Anthropology, Chester New Hall, McMaster University, 1280 Main St. W, Hamilton, Ontario L8S 4L8, Canada

Vaccine 30 (2012) 3778–3789

Anti-vaccine activists, Web 2.0, and the postmodern paradigm – An overview of tactics and tropes used online by the anti-vaccination movement

Anna Kata*
Promoting immunization resiliency in the digital information age

Noni E MacDonald¹*, Eve Dubé²

CCDR • January 2, 2020 • Volume 46–1
So how do we counsel families regarding vaccines?
What’s different in the post-COVID era?
precipitously.

SURVEILLANCE REPORT

Immunization Coverage Report for School-Based Programs in Ontario: 2019-20 and 2020-21 School Years
Figure 1. Immunization coverage for quadrivalent meningococcal conjugate (MCV4), human papillomavirus (HPV) and hepatitis B (Hep B) vaccines among 12-year-olds in Ontario: 2013–14 to 2020–21 school years
Figure 2a. Immunization coverage for school-based immunization programs among 12-year-olds in Ontario: 2019–20 and 2020–21 school years

<table>
<thead>
<tr>
<th></th>
<th>2019-20 school year</th>
<th>2020-21 school year</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCV4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hep B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Coverage (%)**
- **Initiated, but did not complete series**
- **Completed series**
In 2021, the estimated global coverage with 3 doses of diphtheria-tetanus-pertussis-containing vaccine as well as the first dose of measles-containing vaccine decreased to 81%, the lowest level since 2008. Globally, 25.0 million children were unvaccinated or incompletely vaccinated in 2021, 5.9 million more than in 2019.
• there is so much information that it was hard for experienced clinicians to know what is ‘true’!
Managing the COVID-19 infodemic

CALL FOR ACTION
The INFODEMIC confuses all of us.

- there is so much information that it was hard for experienced clinicians to know what is ‘true’!
- this has likely EXACERBATED previously-mentioned perceived lack of expertise of medical professionals
Bad information exists for various reasons.

- **Disinformation**: false information deliberately created to cause harm
- **Malinformation**: information that is based in reality and used to cause harm
- **Misinformation**: false information that is not created with the intention of causing harm
Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA

Sahil Loomba1,5, Alexandre de Figueiredo1,2,5, Simon J. Piatek2, Kristen de Graaf2 and Heidi J. Larson1,2,3,4

Widespread acceptance of a vaccine for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) will be the next major step in fighting the coronavirus disease 2019 (COVID-19) pandemic, but achieving high uptake will be a challenge and may be impeded by online misinformation. To inform successful vaccination campaigns, we conducted a randomized controlled trial in the UK and the USA to quantify how exposure to online misinformation around COVID-19 vaccines affects intent to vaccinate to protect oneself or others. Here we show that in both countries—as of September 2020—fewer people would ‘definitely’ take a vaccine than is likely required for herd immunity, and that, relative to factual information, recent misinformation induced a decline in intent of 6.2 percentage points (95th percentile interval 3.9 to 8.5) in the UK and 6.4 percentage points (95th percentile interval 4.0 to 8.8) in the USA among those who stated that they would definitely accept a vaccine. We also find that some sociodemographic groups are differentially impacted by exposure to misinformation. Finally, we show that scientific-sounding misinformation is more strongly associated with declines in vaccination intent.
Social media and vaccine hesitancy: new updates for the era of COVID-19 and globalized infectious diseases

Neha Puri\textsuperscript{a,*}, Eric A. Coomes\textsuperscript{b,*}, Hourmazd Haghbayan\textsuperscript{c,d}, and Keith Gunaratne\textsuperscript{a}

\textsuperscript{a}Department of Medicine, University of Toronto, Toronto, Ontario, Canada; \textsuperscript{b}Division of Infectious Diseases, Department of Medicine, University of Toronto, Toronto, Ontario, Canada; \textsuperscript{c}Division of Cardiology, Department of Medicine, London Health Sciences Centre, Western University, London, Ontario, Canada; \textsuperscript{d}Department of Social and Preventative Medicine, Université Laval, Québec, Canada
Many issues with social media messaging.

- no editorial curation or scientific vetting
- often anonymous people – but also frequently ‘bots’ designed to increase conflict
- algorithms facilitate the development of insular, like-minded communities
- anti-vaccine tweets/posts more likely to be re-tweeted or liked
- social media greatly facilitates access to anti-vaccine websites
Canadian parents’ perceptions of COVID-19 vaccination and intention to vaccinate their children: Results from a cross-sectional national survey

Robin M. Humble, Hannah Sell, Eve Dubé, Noni E. MacDonald, Joan Robinson, S. Michelle Driedger, Manish Sadarangani, Samantha B. Meyer, Sarah Wilson, Karen M. Benzies, Samuel Lemaire-Paquette, Shannon E. MacDonald

*Corresponding author
Many parents were surveyed.

- national web-based survey, in French and English only, Dec 2020
- adapted from a similar survey done in 2018 looking at routine childhood vaccines
- n=1702 parents (55% women, 55% university-educated, 52% household income >80K)
### Parents' COVID-19 vaccination intention for their children (outcome variable)

If a safe and effective COVID-19 vaccine is available, I will get my child/children vaccinated

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree/Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1074</td>
<td>628</td>
</tr>
<tr>
<td></td>
<td>63.1</td>
<td>36.9</td>
</tr>
</tbody>
</table>

### Parents' COVID-19 vaccination intention for themselves

If a safe and effective COVID-19 vaccine is available to me, I plan to get vaccinated

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree/Neutral</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1100</td>
<td>602</td>
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<tr>
<td></td>
<td>64.6</td>
<td>35.4</td>
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</table>

### Receipt of routine childhood vaccination

Pre-pandemic routine pre-school vaccines received for children 0–6 years old

<table>
<thead>
<tr>
<th></th>
<th>All vaccines received</th>
<th>Some vaccines received</th>
<th>No vaccines received</th>
<th>Don't know</th>
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<tbody>
<tr>
<td></td>
<td>761</td>
<td>106</td>
<td>59</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>81.1</td>
<td>11.3</td>
<td>6.3</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Pre-pandemic routine school aged vaccines received for children 7–17 years old

<table>
<thead>
<tr>
<th></th>
<th>All vaccines received</th>
<th>Some vaccines received</th>
<th>No vaccines received</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>869</td>
<td>105</td>
<td>46</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>83.5</td>
<td>10.1</td>
<td>4.4</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Pre-school and school-aged children combined: Pre-pandemic routine vaccines received for children 0–17 years old

<table>
<thead>
<tr>
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<th>Some vaccines received</th>
<th>No vaccines received</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1381</td>
<td>207</td>
<td>84</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>81.1</td>
<td>12.2</td>
<td>4.9</td>
<td>1.8</td>
</tr>
</tbody>
</table>

### Receipt of childhood influenza vaccination

Child(ren) received influenza vaccine last year

<table>
<thead>
<tr>
<th></th>
<th>All children received</th>
<th>Some children received</th>
<th>No children received</th>
<th>Children not eligible in their jurisdiction</th>
<th>Don't remember</th>
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<tbody>
<tr>
<td></td>
<td>643</td>
<td>104</td>
<td>874</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>37.8</td>
<td>6.1</td>
<td>51.4</td>
<td>2.2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

### Parents' perceptions of COVID vaccines (not specific to children)

Believe vaccination against COVID-19 is necessary

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree/Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>511</td>
</tr>
<tr>
<td></td>
<td>70.0</td>
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</tbody>
</table>

Confident that the COVID-19 vaccines will be safe

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
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<tbody>
<tr>
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<td>927</td>
<td>775</td>
</tr>
<tr>
<td></td>
<td>54.5</td>
<td>45.5</td>
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</tbody>
</table>

Constraints won’t prevent access to the COVID-19 vaccine

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree/Neutral</th>
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<tbody>
<tr>
<td></td>
<td>1061</td>
<td>641</td>
</tr>
<tr>
<td></td>
<td>62.3</td>
<td>37.7</td>
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</table>
• more likely to vaccinate:
  o spoke languages other than English/French/Indigenous at home

• less likely to vaccinate:
  o did not intend to vaccinate themselves***
  o concerns about vaccine safety
  o didn’t previously immunize against influenza

• no significant relationship between acceptance of routine vaccines and intention to vaccinate
Outcomes at least 90 days since onset of myocarditis after mRNA COVID-19 vaccination in adolescents and young adults in the USA: a follow-up surveillance study

COVID-19 vaccination in 5-11 years old children: Drivers of vaccine hesitancy among parents in Quebec

Eve Dubé, Dominique Gagnon, and Catherine Pelletier
Why vaccinate children aged 5 to 11? That’s the question. […] We were asked to vaccinate to protect ourselves and others. We are 95% vaccinated. That’s good. The people who need to protect are protected. Why are we asking our children to have this vaccine? For what purpose? In order to protect themselves? They are not at risk. To protect others? They are all already vaccinated. I’m sorry. There is no reason for our little ones to be vaccinated. (Parent, Focus Group no2, Nov 9, 2021)
I find it difficult that they [the children] have that burden to carry and I find it ungrateful, actually. I think it’s using children. As was mentioned, we have 90% of the population vaccinated. I don’t think that the small percentage of children between the ages of 5 and 11 is going to change the game to the point where everything can change. I have the impression that we are in something “political” and at this level, it bothers me a lot. (Parent, Focus Group no2, Nov 9, 2021)
Multiple themes were identified.

- wanting to prevent disease transmission
- concern about possible AEFIs (note made of ‘rapid development’ of vaccine)
- children have less decision-making capacity (than adolescents)
- concern about ‘political pressure’
- problem of intolerance and polarization of ideas
Where are we now?

- Children’s COVID-19 Vaccine Table met regularly in 2021...then much less
- lots of effort to facilitate adolescent immunization and provide guidance, telephone support, etc.
- much less success with 5-11 year vaccine rollout despite the much lower risk of cardiac toxicity
- essentially no Vaccine Table involvement with <5 year rollout – and many PHUs did not have vigorous publicity campaigns
It will probably take quite a while for vaccine coverage to increase.
1. Most vaccine hesitant parents I have met are reasonable, caring people who just want to do the best they can for their children.

2. Our human qualities often interfere with us making rational decisions, about vaccines and everything else in life.

3. It is important to work with families as much as possible to ‘get them to a YES.’
1. Immunization coverage for routine childhood vaccines has noticeably dropped.

2. There probably are many fewer parents who are undecided about COVID-19 vaccines.

3. There is probably MORE reliance on social media and/or peer group behaviour and LESS reliance on medical professionals now.

4. It will be a long way back. Careful listening and non-judgmental support even more important.
Thank you!!

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