SECRETARIA DE ESTADO DA SAÚDE
COORDENADORIA DE CONTROLE DE DOENÇAS
GRUPO DE GERENCIAMENTO ADMINISTRATIVO

CCD
COORDENADORIA DE CONTROLE DE DOENÇAS

SAÚDE EM REDE

ATUALIZAÇÃO EM VACINAS COVID-19 EM PEDIATRIA

RENATO DE ÁVILA KFOURI

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Presidente do Departamento de Imunização da Sociedade Brasileira de Pediatria (SBP)

Diretor da Sociedade Brasileira de Imunizações (SBIm)

Membro da Câmara Técnica Assessora do Programa Nacional de Imunizações (PNI)

Declaração de Conflito de Interesse

Dr. Renato de Ávila Kfouri CRM/SP: 59492

De acordo com a Resolução 1595 / 2000 do Conselho Federal de Medicina e com a RDC 96/2008 da ANVISA, declaro que:

- Participação como palestrante convidado e consultor de vários laboratórios da área de vacinas
- Atuação no mercado privado de vacinas
- Não possuo ações de quaisquer companhias farmacêuticas
- Os pré-requisitos para participar destas atividades são a autonomia do pensamento científico, a independência de opiniões e a liberdade de expressão

EPIDEMIOLOGIA EM PEDIATRIA

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MINISTÉRIO DA SAÚDE
Secretaria de Vigilância em Saúde

BOLETIM EPIDEMIOLÓGICO ESPECIAL
Doença pelo Novo Coronavírus – COVID-19

Semana Epidemiológica 46 • 14/11 a 20/11/2021

guda Grave (SRAG) hospitalizados, segundo classificação final, faixa etária e sexo.

Faixa etária (em anos)	Síndrome Respiratória Aguda Grave (SRAG)						
	Covid-19	Influenza	Outros Vírus Respiratórios	Outros Agentes Etiológicos	Não Especificado	Em Investigação	Total
<1	5.006	80	7.483	212	23.320	6.307	42.408
1 a 5	5.228	117	4.738	266	33.170	7.573	51.092
6 a 19	9.240	50	903	190	17.728	4.298	32.409
20 a 29	46.448	52	228	188	13.565	5.570	66.051
30 a 39	136.396	126	192	300	19.111	12.256	168.381
40 a 49	206.214	163	165	360	24.877	17.431	249.210
50 a 59	252.278	199	210	433	33.808	21.385	308.313
		153	277	635	43.424	19.916	286.624
		158	302	669	44.673	16.691	229.488
		103	258	556	35.806	10.655	138.265
		25	83	224	12.400	2.966	39.708
Sexo							
Masculino	651.275	678	8.093	2.192	156.726	67.524	886.488
Feminino	513.502	548	6.741	1.841	145.038	57.453	725.123
Ignorado	144	0	5	0	118	71	338
Total geral	**1.164.921**	**1.226**	**14.839**	**4.033**	**301.882**	**125.048**	**1.611.949**

Fonte: SIVEP-Gripe. Dados atualizados em 22/11/2021 às 12h, sujeitos a revisões.

1.164.921 Hospitalizações por COVID-19
19.474 Hospitalizações em < 20 anos
1,7%

MINISTÉRIO DA SAÚDE: Secretaria de Vigilância em Saúde. **Doença pelo Novo Coronavírus – COVID-19. BOLETIM EPIDEMIOLÓGICO ESPECIAL.** Semana Epidemiológica 46 • 14/11 a 20/11/2021

EPIDEMIOLOGIA EM PEDIATRIA

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MINISTÉRIO DA SAÚDE
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a Aguda Grave (SRAG), segundo classificação final, faixa etária e sexo. Brasil,

			Óbitos por Síndrome Respiratória Aguda Grave (SRAG)				
			Outros Vírus Respiratórios	Outros Agentes Etiológicos	Não Especificado	Em Investigação	Total
<1	400	1	85	5	498	29	1.018
1 a 5	205	0	40	9	264	4	522
6 a 19	782	0	26	13	417	15	1.253
20 a 29	5.677	3	11	37	855	28	6.611
30 a 39	20.225	5	12	60	1.788	70	22.160
40 a 49	41.443	21	22	60	3.276	178	45.000
50 a 59	69.469	32	34	86	5.517	280	75.418
		32	48	124	8.691	355	95.432
		39	67	144	10.312	387	90.372
		28	58	112	9.440	304	60.367
		8	27	52	3.907	116	19.234
Sexo							
Masculino	204.974	100	225	428	23.882	962	230.571
Feminino	164.339	69	205	274	21.076	803	186.766
Ignorado	42	0	0	0	7	1	50
Total geral	**369.355**	**169**	**430**	**702**	**44.965**	**1.766**	**417.387**

Fonte: SIVEP-Gripe. Dados atualizados em 22/11/2021 às 12h, sujeitos a revisões.

369.335 Mortes por COVID-19
1.387 Mortes em < 20 anos
0,37%

MINISTÉRIO DA SAÚDE: Secretaria de Vigilância em Saúde. **Doença pelo Novo Coronavírus – COVID-19. BOLETIM EPIDEMIOLÓGICO ESPECIAL.** Semana Epidemiológica 46 • 14/11 a 20/11/2021

Óbitos, mortalidade e letalidade por COVID-19, Brasil: março 2020 a novembro 2021

Faixa Etária	Óbitos SRAG	Óbitos: SRAG por Covid-19	Taxa de Mortalidade (/100 mil hab.) de SRAG por Covid-19	Taxa de Letalidade
0 a 4	3.375	1.156	8,4	6,7%
5 a 11	766	308	1,5	5,0%
12 a 17	1.301	714	3,7	10,5%
18 a 29	11.430	8.395	20,6	11,4%
30 a 39	32.442	27.154	78,8	13,8%
40 a 49	65.490	56.399	187,7	18,8%
50 a 59	114.938	98.848	409,8	26,2%
60 a 69	164.465	138.959	811,0	37,7%
70 a 79	170.308	139.888	1.548,2	47,6%
80 a 89	125.652	97.334	2.765,6	56,6%
90 ou mais	41.367	30.064	3.831,5	65,0%
Total	**731.534**	**599.219**	**280,7**	-

Figura 1- Casos e óbitos de SRAG por COVID-19, em crianças de 5 a 11 anos, no Brasil, março de 2020 a novembro de 2021

https://sbim.org.br/images/files/notas-tecnicas/nt-ms-vacinacao-criancas-covid-5a11anos.pdf

EPIDEMIOLOGIA EM PEDIATRIA

THE LANCET
Child & Adolescent Health

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CORRESPONDENCE | VOLUME 5, ISSUE 5, E12-E13, MAY 01, 2021

Children and young people remain at low risk of COVID-19 mortality

Sunil S Bhopal • Jayshree Bagaria • Bayanne Olabi • Raj Bhopal

Published: March 10, 2021 • DOI: https://doi.org/10.1016/S2352-4642(21)00066-3 • Check for updates

	Population	All-cause deaths*		COVID-19 deaths†		COVID-19 deaths as percentage of all-cause deaths, %
		n	per 100 000	n	per 100 000	
USA						
0–4 years	19 810 275	23 844	120·36	67	0·34	0·28%
5–14 years	41 075 169	4990	12·15	67	0·16	1·34%
UK						
0–9 years	8 052 552	3793	47·10	7	0·09	0·19%
10–19 years	7 528 144	1109	14·73	22	0·29	1·98%
Italy						
0–9 years	5 090 482	1569	30·83	8	0·16	0·51%
10–19 years	5 768 874	772	13·38	10	0·17	1·30%
Germany						
0–9 years	7 588 635	2782	36·66	9	0·12	0·32%
10–19 years	7 705 657	1249	16·21	4	0·05	0·32%
Spain						
0–9 years	4 370 858	1369	31·31	8	0·18	0·58%
10–19 years	4 883 447	532	10·89	18	0·37	3·39%
France						
0–9 years	7 755 755	2916	37·60	7	0·09	0·24%
10–19 years	8 328 988	1068	12·82	4	0·05	0·38%
South Korea						
0–9 years	4 148 654	1519	36·61	0	0·00	0
10–19 years	4 940 455	814	16·48	0	0·00	0
Total	137 047 945	48 326	35·26	231	0·17	0·48%

The sources of these data are provided in the appendix (p 2). *Includes all deaths from approximately March 1, 2020, to Feb 1, 2021. †Includes all COVID-19 deaths reported from the start of the pandemic up to Feb 3, 2021 (USA), Jan 29, 2021 (UK), Jan 20, 2021 (Italy), Feb 9, 2021 (Germany), Feb 10, 2021 (Spain), Feb 11, 2021 (France), or Feb 3, 2021 (South Korea).

Table: Age-specific data for seven countries showing estimated all-cause deaths compared with COVID-19 deaths

Published Online
March 10, 2021
https://doi.org/10.1016/
S2352-4642(21)00066-3

This online publication has been corrected.
The corrected version first appeared at thelancet.com/child-adolescent on March 24, 2021

For the **data table of COVID-19 deaths** see https://docs.google.com/document/d/e/2PACX-1vSty5XpnB4wbGYanBcuUu-AVk0OIHyhOGs0Eh1Ug23PwMFNjulUPos47rTG_q5gFfeLLsZk0nkC_UL/pub

See Online for appendix

https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(21)00066-3/fulltext

JAMA Pediatr. 2021 Feb 1;175(2):176-184. doi: 10.1001/jamapediatrics.2020.5052.

Assessment of 135 794 Pediatric Patients Tested for Severe Acute Respiratory Syndrome Coronavirus 2 Across the United States

L Charles Bailey [1 2 3], Hanieh Razzaghi [1 2 3], Evanette K Burrows [1 3], H Timothy Bunnell [4], Peter E F Camacho [2], Dimitri A Christakis [5 6], Daniel Eckrich [4], Melody Kitzmiller [7], Simon M Lin [8], Brianna C Magnusen [9], Jason Newland [10], Nathan M Pajor [11 12 13], Daksha Ranade [5], Suchitra Rao [14], Olamiji Sofela [15], Janet Zahner [12], Cortney Bruno [1], Christopher B Forrest [1 2 3]

- Estudo com 135.794 crianças e adolescentes < 25 anos (EUA)
- 47% sexo feminino
- Mediana de idade 8,8 anos
- **Maior risco: < 3 meses e > 20 anos**
- Doença gastrointestinal: 2,0 [95% CI, 1.04-1.38]
- Câncer: RR 1,54 [95% CI, 1.19-1.93]
- Doença metabólica: 1,42 [95% CI, 1,24-1.61]
- Doenças hematológicas: 1,26 [95% CI, 1.06-1.47]
- Alterações genéticas: 1,19 [95% CI, 1.00-1.40]
- Cardiopatias: 1,18 [95% CI, 1.05-1.32]
- Outros: Obesidade, imunossupressão

Clinical characteristics and risk factors for death among hospitalised children and adolescents with COVID-19 in Brazil: an analysis of a nationwide database

	Discharge			In-hospital death		
	Events, n (%)	HR (95% CI)	p value	Events, n (%)	HR (95% CI)	p value
Overall*	10 041 (91·9%)	..	..	886 (8·1%)	..	..
Age, years						
<2	3558/10 041 (35·4%)	0·82 (0·78–0·86)	<0·0001	194/886 (21·9%)	2·36 (1·94–2·88)	<0·0001
2–11	3453/10 041 (34·4%)	1 (ref)	..	354/886 (40·0%)	1 (ref)	..
12–19	3030/10 041 (30·2%)	0·73 (0·70–0·77)	<0·0001	338/886 (38·1%)	2·23 (1·84–2·71)	<0·0001
Macroregion						
Southeast	3648/10 041 (36·3%)	1 (ref)	..	236/886 (26·6%)	1 (ref)	..
South	881/10 041 (8·8%)	1·03 (0·95–1·13)	0·41	63/886 (7·1%)	1·16 (0·87–1·55)	0·227
Central-West	1183/10 041 (11·8%)	0·69 (0·65–0·74)	<0·0001	49/886 (5·5%)	0·80 (0·56–1·13)	0·202
Northeast	2751/10 041 (27·4%)	0·66 (0·63–0·71)	<0·0001	377/886 (42·6%)	2·06 (1·68–2·52)	<0·0001
North	1578/10 041 (15·7%)	0·82 (0·76–0·87)	<0·0001	161/886 (18·2%)	1·55 (1·22–1·98)	<0·0001
Ethnicity†						
White	2854/7964 (35·8%)	1 (ref)	..	214/741 (28·9%)	1 (ref)	..
Black or Brown	4941/7964 (62·0%)	0·95 (0·90–1·00)	0·072	493/741 (66·5%)	1·12 (0·92–1·35)	0·213
Asian	69/7964 (0·9%)	0·90 (0·71–1·14)	0·42	8/741 (1·1%)	1·45 (0·71–2·99)	0·312
Indigenous	100/7964 (1·3%)	0·70 (0·56–0·88)	0·0026	26/741 (3·5%)	3·36 (2·15–5·24)	<0·0001
Number of comorbidities						
0	7399/10 041 (73·7%)	1 (ref)	..	438/886 (49·4%)	1 (ref)	..
1	2291/10 041 (22·8%)	0·72 (0·68–0·76)	<0·0001	347/886 (39·2%)	2·96 (2·52–3·47)	<0·0001
2	298/10 041 (3·0%)	0·49 (0·43–0·55)	<0·0001	81/886 (9·1%)	4·96 (3·80–6·48)	<0·0001
≥3	53/10 041 (0·5%)	0·37 (0·28–0·49)	<0·0001	20/886 (2·3%)	7·28 (4·56–11·60)	<0·0001

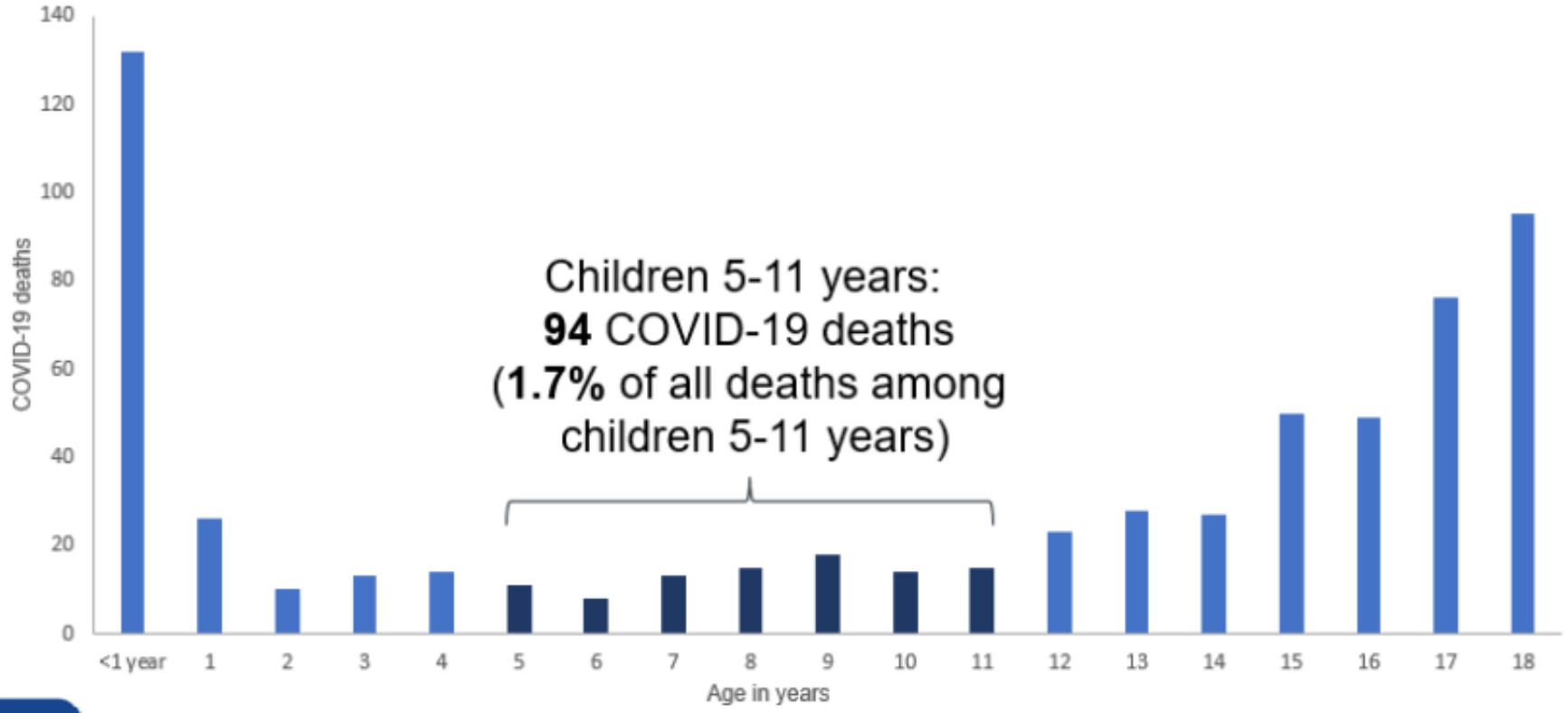
369 cases were still hospitalised (censored in the analysis). *317 cases were missing primary outcome data. †2222 cases were missing ethnicity data.

Table 2: **Multivariate competing risks analysis of discharge and in-hospital death**

Em crianças e adolescentes a morte por COVID-19 foi associada à idade (lactentes <2 a. (HR 2·36 [IC95% 1·94-2·88]) ou adolescentes de 12 a 19 a (2·23 [1·84-2·71]) em relação a crianças de 2 a 11 anos, etnia indígena, região geopolítica pobre (NE e N) e condições médicas pré-existentes

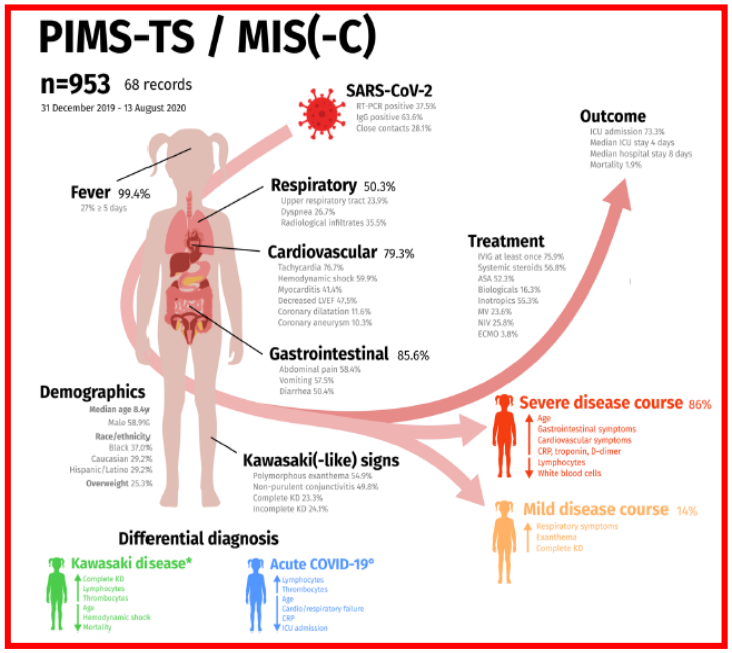
Oliveira et al. Lancet Child Adolesc Health 10 June 2021

COVID-19 Deaths by Age Group, NCHS — January 1, 2020–October 16, 2021



https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-Counts-by-Age-in-Years/3apk-4u4f/data

Síndrome Inflamatória Multissistêmica em Pediatria (SIM-P)
A systematic review



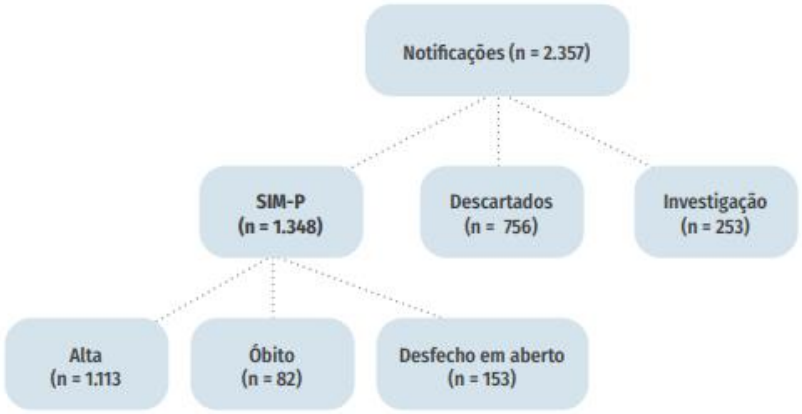
- Mediana de 8 anos
- 58,9% masculino
- 37% negras
- Obesidade (25,3%)
- Outras comorbidades foram raras.
- Febre, manifestações gastrointestinais (85,6%) cardiocirculatórias (79,3%), aumento marcadores inflamatórios, manifestações respiratórias (50,3%) e choque (56,3%)
- Admissão em UTI = 73,3%
- ECMO em 3,8%
- Letalidade 1,9%

Slide Cortesia Marco Safadi

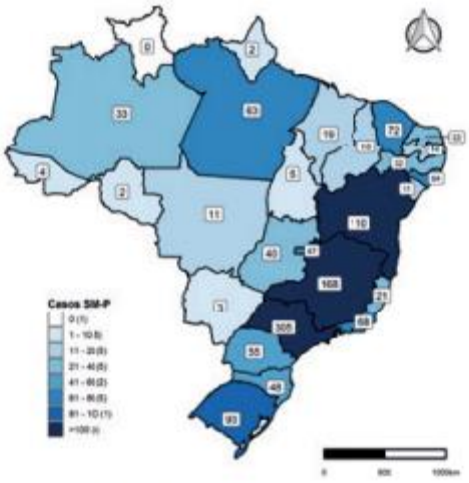
Hoste et al. Eur J Pediatr. 2021 Feb 18:1–16

Epidemiologia da SIM-P no Brasil

- Até a semana 41 de 2021, foram notificados 2.357 casos confirmados da SIM-P em crianças e adolescentes de 0 a 19 anos, 1.348 confirmados, sendo que destes, 82 evoluíram para óbito (**letalidade de 6%).**

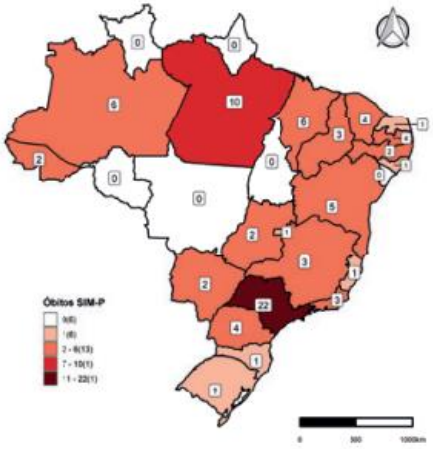


Casos

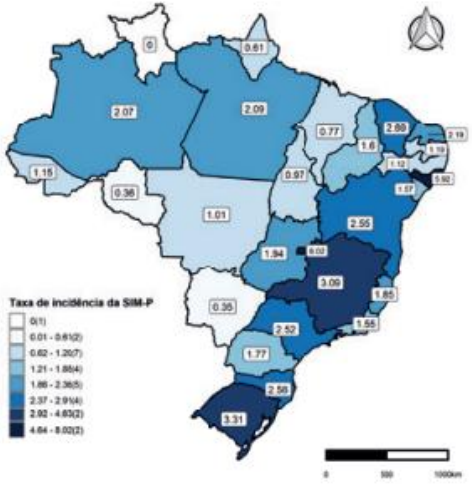


em 18/10/2021. Dados preliminares, sujeitos a alterações.

Óbitos



Incidência



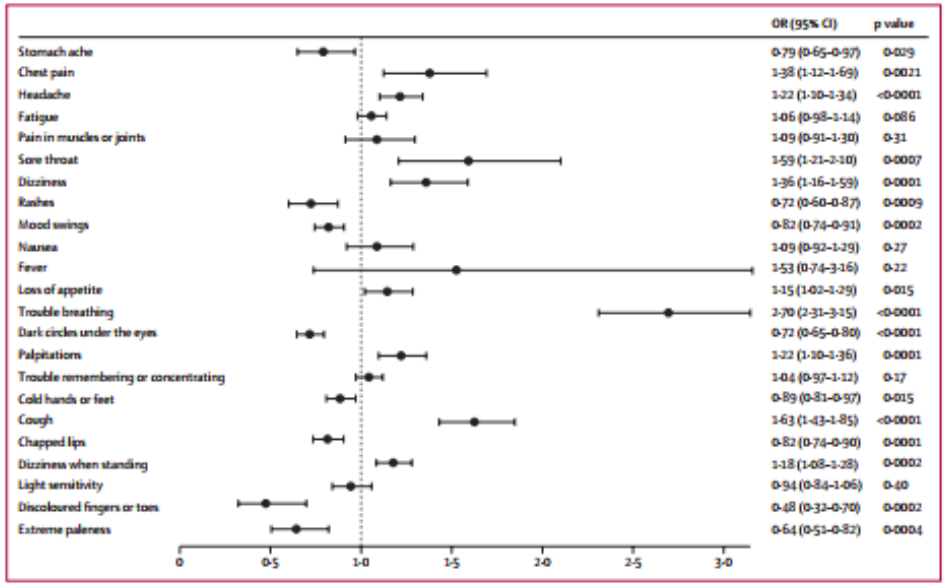
Long COVID symptoms in SARS-CoV-2-positive adolescents and matched controls (LongCOVIDKidsDK): a national, cross-sectional study

Selina Kikkenborg Berg, Susanne Dam Nielsen, Ulrikka Nygaard, Henning Bundgaard, Pernille Palm, Camilla Rotvig, Anne Vinggaard Christensen

Summary

Background Many adolescents have been affected by the COVID-19 pandemic either directly by being infected with the virus or indirectly by lockdowns and restrictions influencing normal living. We aimed to investigate health, including symptoms of long COVID, in adolescents (aged 15–18 years) who tested positive for SARS-CoV-2 compared with a control group.

Lancet Child Adolesc Health 2022
Published Online
February 7, 2022
https://doi.org/10.1016/
S2352-4642(22)00004-9



- **Estudo investigou sintomas de longo prazo e qualidade de vida em adolescentes com PCR confirmado SARS-CoV-2 em comparação com os controles de idade e sexo.**
- **Tempo de acompanhamento de mais de 12 meses**
- **Incluiu 6630 casos e 21 640 controle.**
- **COVID longa classificada de acordo com a nova definição da OMS (sintomas com duração superior a 8 semanas).**
- **O estudo inclui achados sobre bem-estar psicológico, social, bem-estar e ausência escolar durante a pandemia.**
- **Adolescentes no grupo caso tinham maiores chances de ter sintomas covid-19 de longa duração. O grupo de casos teve mais dias de doença e mais ausências escolares do que o grupo de controle.**

	At least 2 months (n=5978)	At least 3 months (n=5106)	At least 6 months (n=4250)	At least 9 months (n=1085)	At least 12 months (n=242)
Stomach ache					
Almost never or sometimes	106 (1·8%)	82 (1·6%)	42 (1·0%)	8 (0·7%)	1–4
Often or almost always	66 (1·1%)	55 (1·1%)	29 (0·7%)	1–4	0
Chest pain					
Almost never or sometimes	206 (3·4%)	155 (3·0%)	94 (2·2%)	17 (1·6%)	4 (1·7%)
Often or almost always	85 (1·4%)	70 (1·4%)	43 (1·0%)	10 (0·9%)	1–4
Headache					
Almost never or sometimes	288 (4·8%)	219 (4·3%)	136 (3·2%)	25 (2·3%)	1–4
Often or almost always	259 (4·3%)	212 (4·2%)	141 (3·3%)	28 (2·6%)	5 (2·1%)
Fatigue					
Almost never or sometimes	409 (6·8%)	315 (6·2%)	209 (4·9%)	36 (3·3%)	1–4
Often or almost always	661 (11·1%)	547 (10·7%)	380 (8·9%)	81 (7·5%)	8 (3·3%)
Pain in muscles or joints					
Almost never or sometimes	233 (3·9%)	168 (3·3%)	99 (2·3%)	19 (1·8%)	1–4
Often or almost always	102 (1·7%)	89 (1·7%)	59 (1·4%)	14 (1·3%)	1–4
Sore throat					
Almost never or sometimes	134 (2·2%)	101 (2·0%)	63 (1·5%)	9 (0·8%)	1–4
Often or almost always	49 (0·8%)	37 (0·7%)	22 (0·5%)	5 (0·5%)	0
Dizziness					
Almost never or sometimes	254 (4·2%)	200 (3·9%)	110 (2·6%)	21 (1·9%)	1–4
Often or almost always	122 (2·0%)	97 (1·9%)	60 (1·4%)	13 (1·2%)	1–4
Rashes					
Almost never or sometimes	58 (1·0%)	40 (0·8%)	18 (0·4%)	1–4	0
Often or almost always	41 (0·7%)	34 (0·7%)	19 (0·4%)	5 (0·5%)	0
Mood swings					
Almost never or sometimes	146 (2·4%)	111 (2·2%)	60 (1·4%)	13 (1·2%)	1–4
Often or almost always	144 (2·4%)	121 (2·4%)	82 (1·9%)	13 (1·2%)	1–4
Nausea					
Almost never or sometimes	176 (2·9%)	131 (2·6%)	69 (1·6%)	12 (1·1%)	0
Often or almost always	110 (1·8%)	81 (1·6%)	48 (1·1%)	14 (1·3%)	1–4
Fever					
Almost never or sometimes	41 (0·7%)	32 (0·6%)	21 (0·5%)	1–4	0
Often or almost always	5 (0·1%)	1–4	1–4	0	0
Loss of appetite					
Almost never or sometimes	313 (5·2%)	228 (4·5%)	135 (3·2%)	19 (1·8%)	1–4
Often or almost always	298 (5·0%)	230 (4·5%)	137 (3·2%)	24 (2·2%)	0
Trouble breathing					
Almost never or sometimes	309 (5·2%)	254 (5·0%)	154 (3·6%)	26 (2·4%)	6 (2·5%)
Often or almost always	219 (3·7%)	183 (3·6%)	122 (2·9%)	27 (2·5%)	1–4
Dark circles under the eyes					
Almost never or sometimes	92 (1·5%)	76 (1·5%)	45 (1·1%)	9 (0·8%)	0
Often or almost always	113 (1·9%)	91 (1·8%)	66 (1·6%)	13 (1·2%)	1–4

(Table 3 continues on next page)

	At least 2 months (n=5978)	At least 3 months (n=5106)	At least 6 months (n=4250)	At least 9 months (n=1085)	At least 12 months (n=242)
(Continued from previous page)					
Palpitations					
Almost never or sometimes	197 (3·3%)	157 (3·1%)	99 (2·3%)	18 (1·7%)	1–4
Often or almost always	82 (1·4%)	69 (1·4%)	49 (1·2%)	13 (1·2%)	1–4
Trouble remembering or concentrating					
Almost never or sometimes	339 (5·7%)	270 (5·3%)	160 (3·8%)	36 (3·3%)	6 (2·5%)
Often or almost always	335 (5·6%)	300 (5·9%)	221 (5·2%)	53 (4·9%)	8 (3·3%)
Cold hands or feet					
Almost never or sometimes	67 (1·1%)	51 (1·0%)	33 (0·8%)	1–4	0
Often or almost always	61 (1·0%)	56 (1·1%)	38 (0·9%)	12 (1·1%)	1–4
Cough					
Almost never or sometimes	145 (2·4%)	99 (1·9%)	60 (1·4%)	7 (0·6%)	1–4
Often or almost always	72 (1·2%)	52 (1·0%)	35 (0·8%)	1–4	1–4
Chapped lips					
Almost never or sometimes	58 (1·0%)	42 (0·8%)	18 (0·4%)	1–4	0
Often or almost always	92 (1·5%)	80 (1·6%)	53 (1·2%)	11 (1·0%)	1–4
Dizziness when standing					
Almost never or sometimes	204 (3·4%)	162 (3·2%)	106 (2·5%)	23 (2·1%)	5 (2·1%)
Often or almost always	160 (2·7%)	135 (2·6%)	93 (2·2%)	20 (1·8%)	1–4
Light sensitivity					
Almost never or sometimes	123 (2·1%)	93 (1·8%)	56 (1·3%)	5 (0·5%)	1–4
Often or almost always	62 (1·0%)	52 (1·0%)	33 (0·8%)	11 (1·0%)	1–4
Discoloured fingers or toes					
Almost never or sometimes	7 (0·1%)	1–4	1–4	1–4	0
Often or almost always	7 (0·1%)	7 (0·1%)	5 (0·1%)	1–4	0
Extreme paleness					
Almost never or sometimes	25 (0·4%)	16 (0·3%)	9 (0·2%)	1–4	1–4
Often or almost always	10 (0·2%)	8 (0·2%)	6 (0·1%)	1–4	0

Cases are included in the specific time periods if they had sufficient follow-up time since a positive SARS-CoV-2 test. For results with fewer than five individuals per cell, numbers are presented as 1–4 and percentages are marked due to data protection rules from the Danish data authorities.

Table 3: Duration of long COVID-19 symptoms within the case group

CLINICS

ORIGINAL ARTICLE

Persistent symptoms and decreased health-related quality of life after symptomatic pediatric COVID-19: A prospective study in a Latin American tertiary hospital

Thais T. Fink, Heloisa H.S. Marques, Bruno Gualano, Livia Lindoso, Vera Bain, Camilla Astley, Fernanda Martins, Denise Matheus, Olivia M. Matsuo, Priscila Suguita, Vitor Trindade, Camila S.Y. Paula, Sylvia C.L. Farhat, Patricia Palmeira, Gabriela N. Leal, Lisa Suzuki, Vicente Odone Filho, Magda Carneiro-Sampaio, Alberto José S. Duarte, Leila Antonangelo, Linamara R. Batistella, Guilherme V. Polanczyk, Rosa Maria R. Pereira, Carlos Roberto R. Carvalho, Carlos A. Buchpiguel, Ana Claudia L. Xavier, Marilia Seelaender, Clovis Artur Silva,[#,*] Maria Fernanda B. Pereira,[#] HC-FMUSP Pediatric Post-COVID-19 Study Group

Hospital das Clinicas HCFMUSP, Faculdade de Medicina, Universidade de Sao Paulo, Sao Paulo, SP, BR.

CONCLUSIONS: Pediatric patients with COVID-19 showed a longitudinal impact on HRQoL parameters, particularly in physical/school domains, reinforcing the need for a prospective multidisciplinary approach for these patients. These data highlight the importance of closer monitoring of children and adolescents by the clinical team after COVID-19.

VACINAÇÃO CONTRA COVID19 EM ADOLESCENTES: 1. REDUÇÃO DO ÔNUS DA DOENÇA PEDIÁTRICA

TAXAS DE MORTALIDADE (MORTES/MILHÃO) POR COVID-19 EM CRIANÇAS E ADOLESCENTES

As taxas de mortalidade por COVID-19 em crianças e adolescentes no Brasil são **±15 vezes mais altas** que em países como os EUA e Reino Unido

www.cdc.gov
Nature. 2021 Jul;595(7867):639

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Search

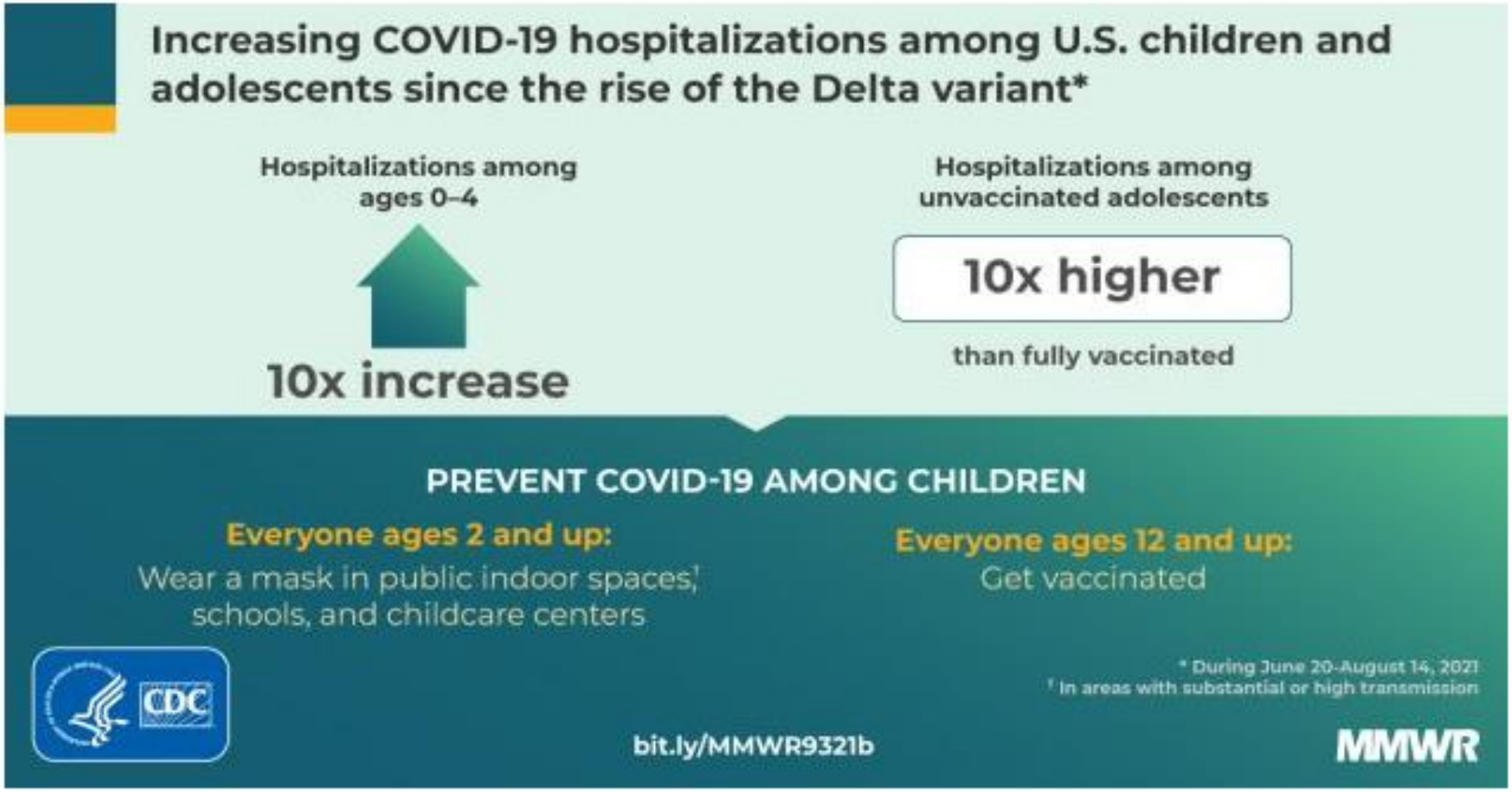
Adv

Morbidity and Mortality Weekly Report (*MMWR*)

CDC

Hospitalizations Associated with COVID-19 Among Children and Adolescents — COVID-NET, 14 States, March 1, 2020–August 14, 2021

Weekly / September 10, 2021 / 70(36);1255–1260

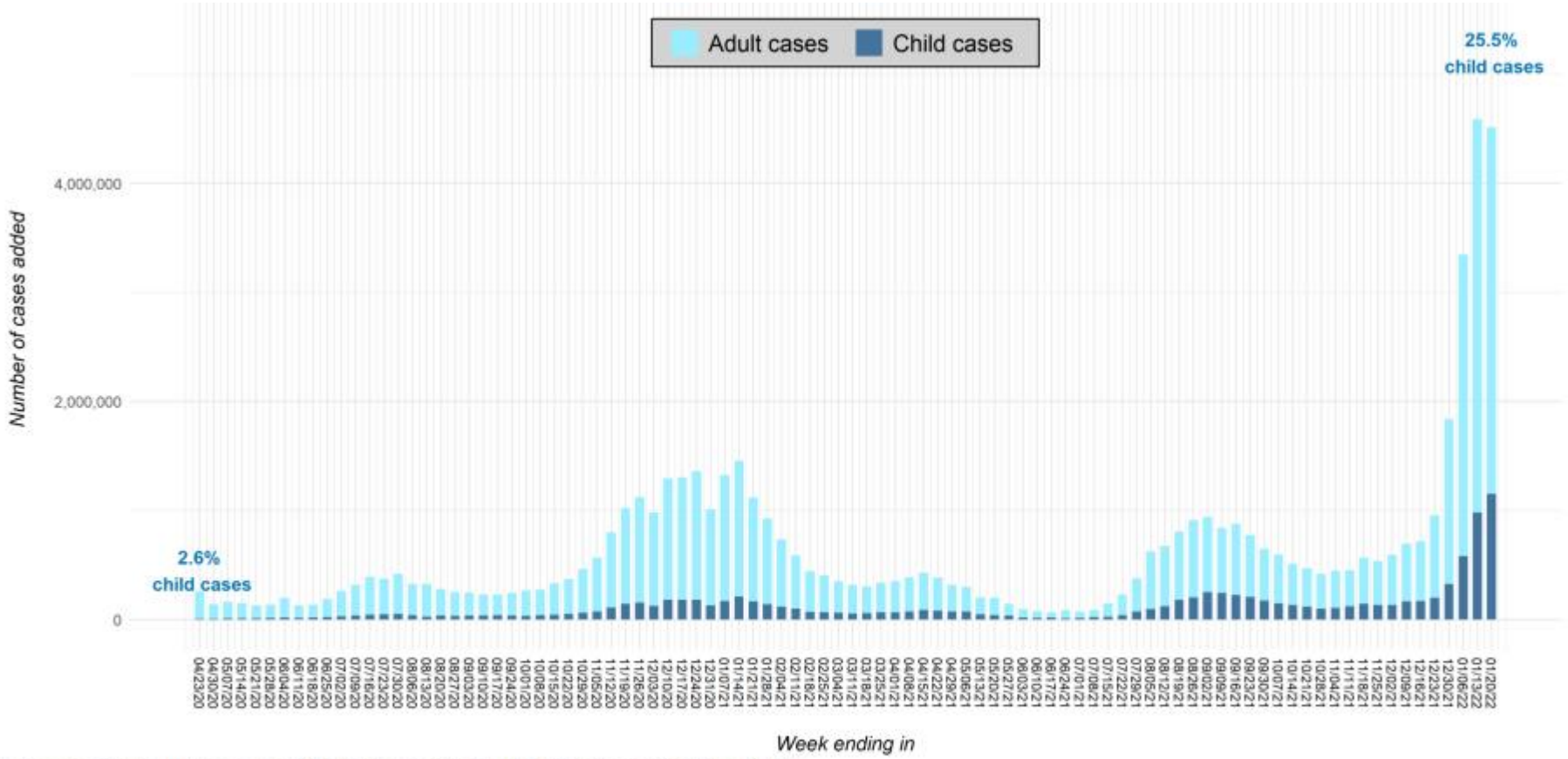


Children and COVID-19: State Data Report

A joint report from the American Academy of Pediatrics and the Children's Hospital Association

Summary of publicly reported data from 49 states, NYC, DC, PR, and GU

Version: 1/20/22



5 states changed their definition of child cases: AL as of 8/13/20, HI as of 8/27/20, RI as of 9/10/20, MO as of 10/1/20, WV as of 8/12/21;
I/22, TX released new data that is NOT included in cumulative case counts or figures but located here and in Appendix 3B of this report (774,083 cumulative child cases as of 1/20/22);
iously reported age for only a small proportion of total cases each week (eg, 2-20%); these cumulative cases through 8/26/21 are included (7,754)
30/21, NE COVID-19 dashboard is no longer available; NE cumulative cases through 6/24/21
available data and changes made to dashboard, AL cumulative cases through 7/29/21
available data and calculations required to obtain MA child cases, weekly estimates fluctuate
I/22, due to available data, DC cumulative child cases and HI cumulative child cases and cumulative cases of all ages through 1/13/22
ail in Appendix: Data from 49 states, NYC, DC, PR and GU
reported by state/local health departments are preliminary and subject to change; Analysis by American Academy of Pediatrics and Children's Hospital Association

CHILDREN'S HOSPITAL ASSOCIATION

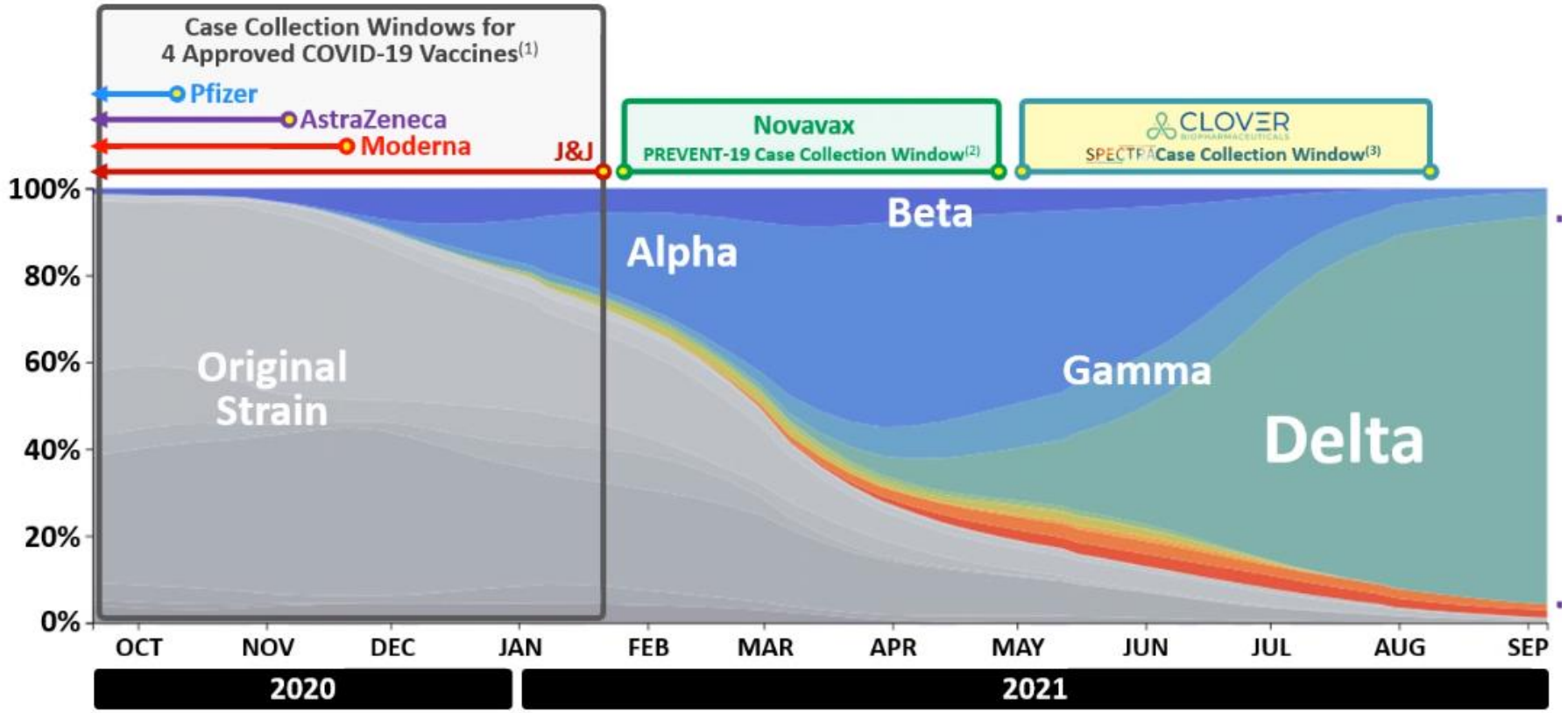
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN

Por que vacinar as crianças?

Crianças e adolescentes menores de 18 anos formam uma grande proporção da população (25% nos brasileiros e 32% globalmente).
Garantir a proteção para um grupo que constitui um quarto da população total parece essencial à medida que avançamos em direção ao controle pandêmico.
No Brasil, do total de óbitos por COVID-19 0,37% ocorreram em < 20 anos = **2.400 óbitos (mais que todas as doenças imunopreveníveis juntas!!!).**
Doença grave é rara, porém a **Síndrome Inflamatória Multissistêmica Pediátrica (SIM-P)** e a **COVID longa** devem ser consideradas
Crianças portadoras de doenças crônicas, grávidas e imunocomprometidas devem ser contempladas pela vacinação.

https://www.gavi.org/vaccineswork/value-covid-19-vaccines-children-roadmap-safer-world?gclid=Cj0KCQjw6-SDBhCMARIsAGbI7Ugz6a_AfOG6YprvN_Kag5cY_Mj5reLgpl4IOdwvH98YDT8uLNa-SnUaApqrEALw_wcB

CENÁRIO DE DESENVOLVIMENTO DE VACINAS



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Evaluation of mRNA-1273 SARS-CoV-2 Vaccine in Adolescents

Kashif Ali, M.D., Gary Berman, M.D., Honghong Zhou, Ph.D., Weiping Deng, Ph.D., Veronica Faughnan, B.S., Maria Coronado-Voges, M.S., Baoyu Ding, M.S., Jacqueline Dooley, B.A., Bethany Girard, Ph.D., William Hillebrand, M.S., Rolando Pajon, Ph.D., Jacqueline M. Miller, M.D.,

METHODS

In this ongoing phase 2–3, placebo-controlled trial, we randomly assigned healthy

Table 2. Immunogenicity of mRNA-1273 in Adolescents and Young Adults.*

Age Group	Participants	Serologic Response†	Difference in Serologic Response, 12 to 17 Yr vs. 18 to 25 Yr‡	Geometric Mean 50% Pseudovirus Neutralizing Antibody Titer (95% CI)§	Geometric Mean Titer Ratio (95% CI), 12 to 17 Yr vs. 18 to 25 Yr
	no.	*no. of participants/total no. (%; 95% CI)*	*percentage points (95% CI)*		
12 to 17 yr	340	336/340 (98.8; 97.0 to 99.7)	0.2 (−1.8 to 2.4)	1401.7 (1276.3 to 1539.4)	1.08 (0.94 to 1.24)
18 to 25 yr	296	292/296 (98.6; 96.6 to 99.6)	—	1301.3 (1177.0 to 1438.8)	—

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CONCLUS

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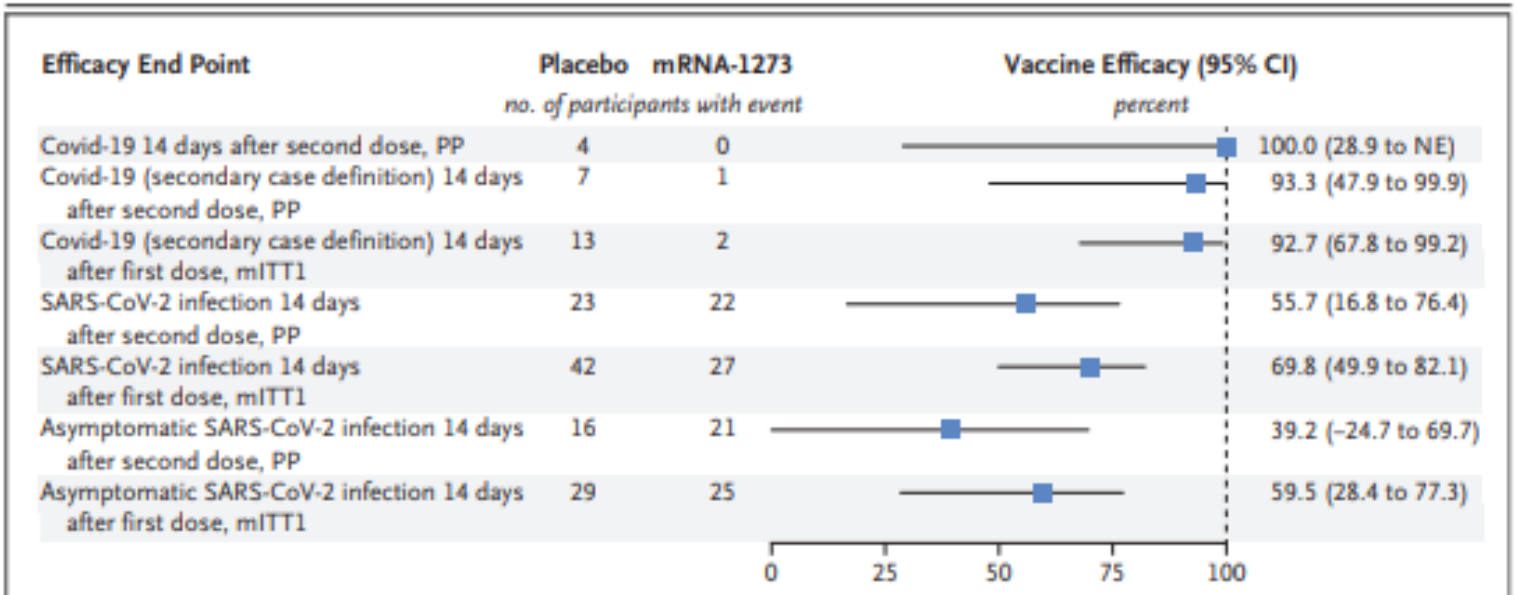


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

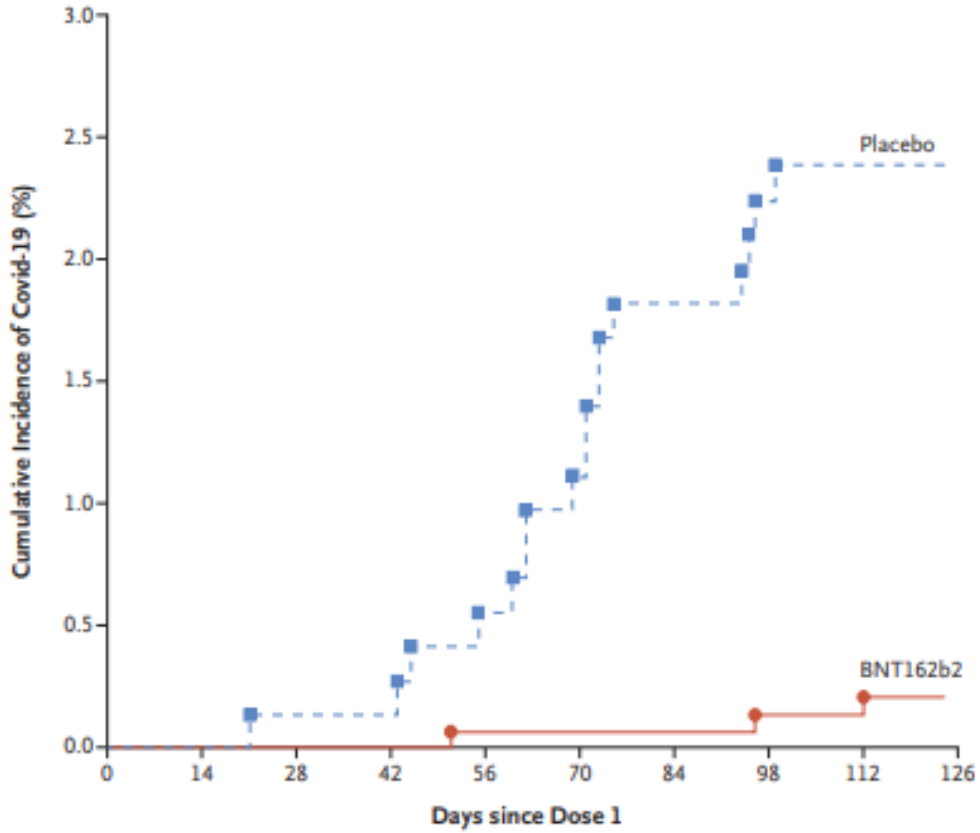
Evaluation of the BNT162b2 Covid-19 Vaccine in Children 5 to 11 Years of Age

E.B. Walter, K.R. Talaat, C. Sabharwal, A. Gurtman, S. Lockhart, G.C. Paulsen, E.D. Barnett, F.M. Muñoz, Y. Maldonado, B.A. Pahud, J.B. Domachowske, E.A.F. Simões, U.N. Sarwar, N. Kitchin, L. Cunliffe, P. Rojo, E. Kuchar, M. Rämet, I. Munjal, J.L. Perez, R.W. Frenck, Jr., E. Lagkadinou, K.A. Swanson, H. Ma, X. Xu, K. Koury, S. Mather, T.J. Belanger, D. Cooper, Ö. Türeci, P.R. Dormitzer, U. Şahin, K.U. Jansen, and W.C. Gruber, for the C4591007 Clinical Trial Group*

ABSTRACT

Table 2. Results of Serum SARS-CoV-2 Neutralization Assay 1 Month after the Second Dose of BNT162b2 among Participants 5 to 11 and 16 to 25 Yr of Age.*

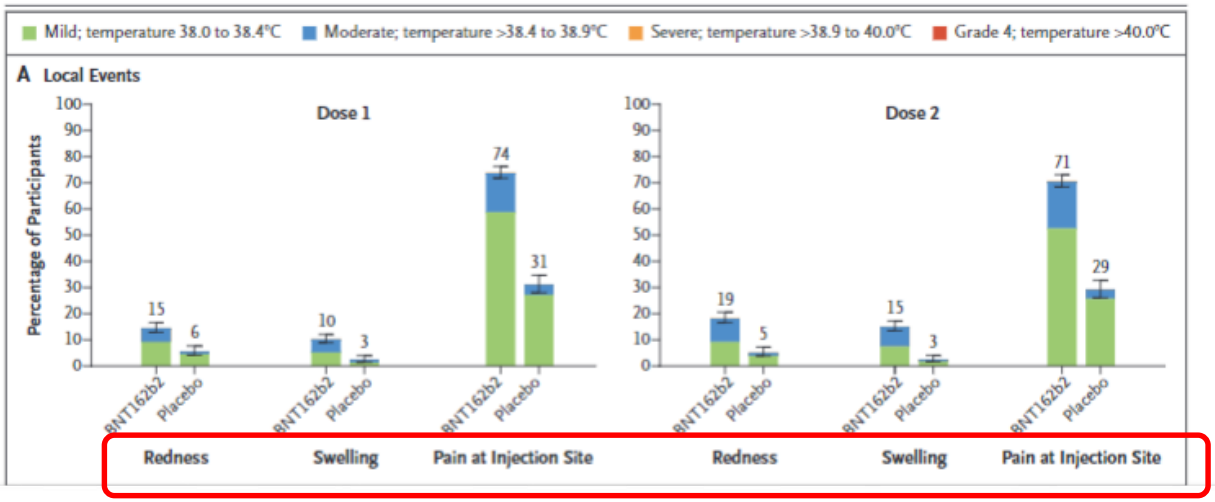
Age Group	BNT162b2 Dose Level	No. of Participants	GMT (95% CI)†	Geometric Mean Ratio, 5-to-11-yr-olds vs. 16-to-25-yr-olds (95% CI)‡
5–11 yr	10 μg	264	1197.6 (1106.1–1296.6)	1.04 (0.93–1.18)
16–25 yr	30 μg	253	1146.5 (1045.5–1257.2)	—



Efficacy End Point	SARS-CoV-2 Infection Status	BNT162b2		Placebo		Vaccine Efficacy (95% CI)
		No. of participants with event (total no.)	Surveillance time (no. at risk)	No. of participants with event (total no.)	Surveillance time (no. at risk)	
			1000 person-yr		*1000 person-yr*	%
Covid-19 ≥7 days after second dose	Without evidence of previous infection	3 (1305)	0.322 (1273)	16 (663)	0.159 (637)	90.7 (67.7–98.3)
Covid-19 ≥7 days after second dose	With or without evidence of previous infection	3 (1450)	0.353 (1398)	16 (736)	0.176 (704)	90.7 (67.4–98.3)

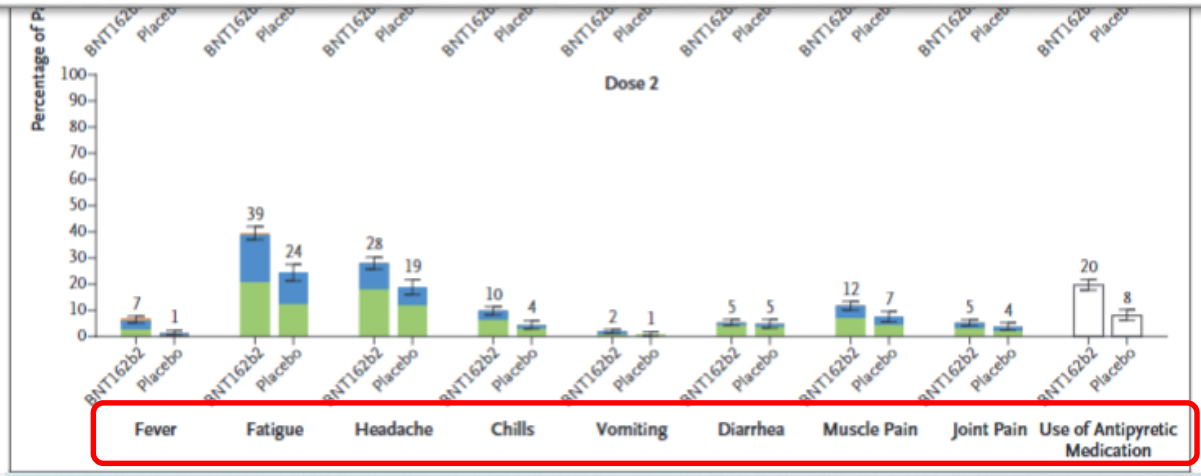
Figure 3. Vaccine Efficacy in Children 5 to 11 Years of Age.

Reatogenicidade em crianças de 5 a 11 anos (Pfizer)



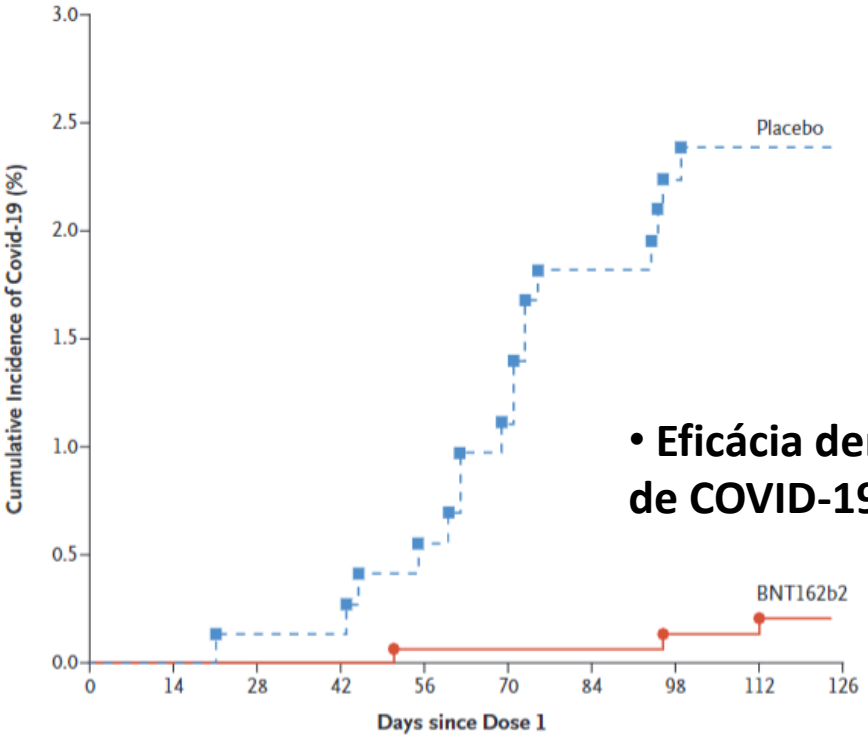
CONCLUSIONS

A Covid-19 vaccination regimen consisting of two 10-μg doses of BNT162b2 administered 21 days apart was found to be safe, immunogenic, and efficacious in children 5 to 11 years of age. (Funded by BioNTech and Pfizer; ClinicalTrials.gov number, NCT04816643.)



Walter et al NEJM 2021

Eficácia em crianças de 5 a 11 anos (Pfizer)



- **Eficácia demonstrada de 90,7% na prevenção de COVID-19 sintomática**

Efficacy End Point	SARS-CoV-2 Infection Status	BNT162b2		Placebo		Vaccine Efficacy (95% CI)
		No. of participants with event (total no.)	Surveillance time (no. at risk)	No. of participants with event (total no.)	Surveillance time (no. at risk)	
			1000 person-yr		*1000 person-yr*	%
Covid-19 ≥7 days after second dose	Without evidence of previous infection	3 (1305)	0.322 (1273)	16 (663)	0.159 (637)	90.7 (67.7–98.3)
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Walter et al NEJM 2021

Morbidity and Mortality Weekly Report

Interim Estimate of Vaccine Effectiveness of BNT162b2 (Pfizer-BioNTech) Vaccine in Preventing SARS-CoV-2 Infection Among Adolescents Aged 12–17 Years — Arizona, July–December 2021

Karen Lutrick, PhD[1]; Patrick Rivers, MPP[1]; Young M. Yoo, MSPH[2]; Lauren Grant, MS[2]; James Hollister[1]; Krystal Jovel, MA[1]; Sana Khan, MPH[1]; Ashley Lowe, PhD[1]; Zoe Baccam[1]; Hanna Hanson[1]; Lauren E.W. Olsho, PhD[3]; Ashley Fowlkes, ScD[2]; Alberto J. Caban-Martinez, DO, PhD[6]; Cynthia Porter[1]; Sarang Yoon, DO[4]; Jennifer Meece, PhD[7]; Manjusha Gaglani, MBBS[5]; Joy Burns, PhD[3]; Julie Mayo Lamberte, MSPH[2]; Flavia Nakayima Miiro, MsC[1]; Adam Bissonnette, MS[7]; Lindsay LeClair, MS, MPH[3]; Preeta K. Kutty, MD[2]; James K. Romine, PhD[1]; Elisha Stefanski[7]; Laura J. Edwards, MPH[3]; Katherine Ellingson, PhD[1]; Joe K. Gerald, MD, PhD[1]; Edward J. Bedrick, PhD[1]; Purnima Madhivanan, MBBS, PhD[1]; Karl Krupp, PhD[1]; Lynn B. Gerald, PhD[1]; Mark Thompson, PhD[2]; Jefferey L. Burgess, MD[1]

CONCLUSOES

A prospective cohort of 243 adolescents aged 12–17 years in Arizona completed weekly SARS-CoV-2 testing by nasal swab for 19 consecutive weeks. Under real-world conditions, vaccine effectiveness of full immunization (completion of the second in a 2-dose series ≥14 days earlier) was 92% against SARS-CoV-2 infections irrespective of symptom status

https://www.cdc.gov/mmwr/volumes/70/wr/pdfs/mm705152a2-H.pdf

COVID-19 Vaccination

Product Info by U.S. Vaccine +

Interim Clinical Considerations +

Clinical Care +

Provider Requirements and Support +

COVID-19 Vaccination for Children 5 through 11 Years Old

Information for Jurisdictions, Healthcare Providers, Pharmacists, Schools, and Community Partners

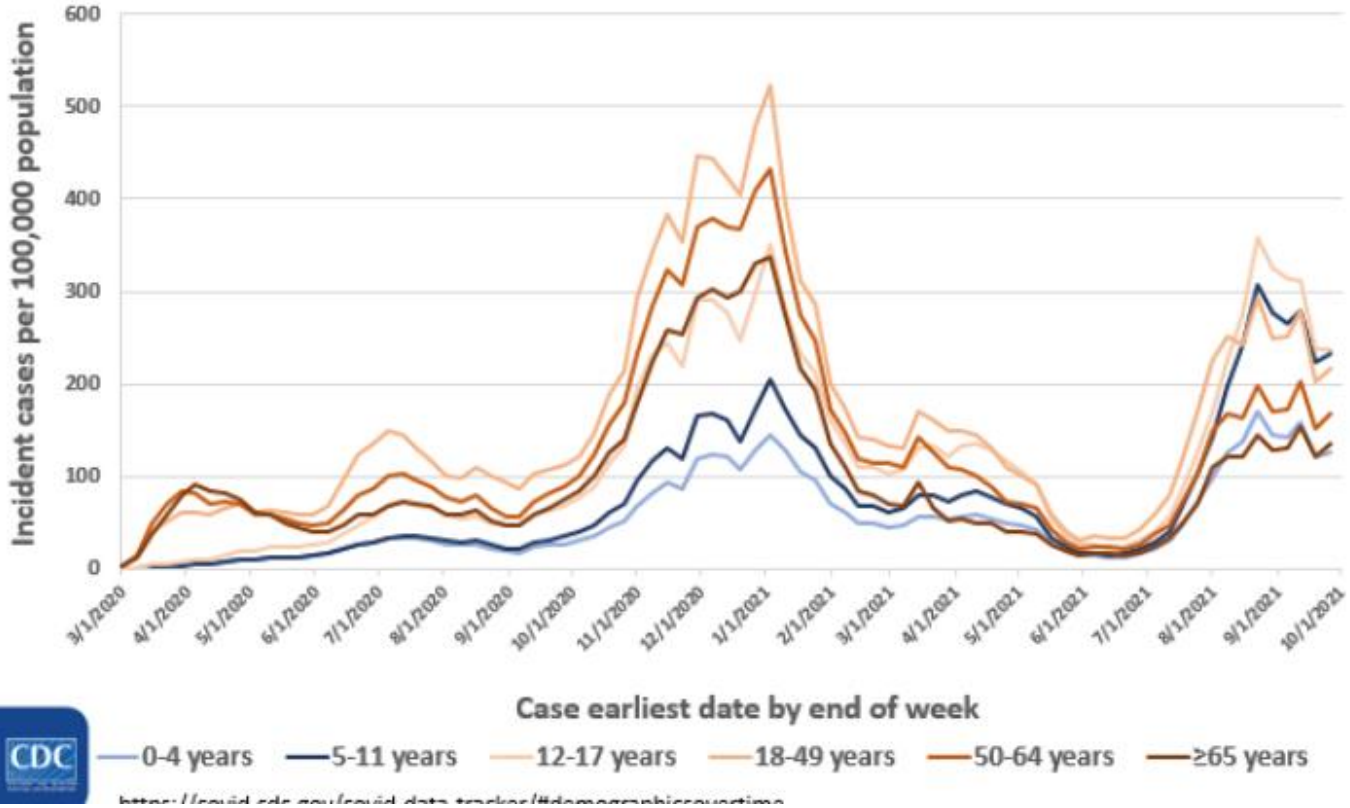
CDC now recommends that children between the ages of 5 and 11 years receive the Pfizer-BioNTech pediatric COVID-19 Vaccine. Get more information and read CDC's media statement.

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 70
November 5, 2021

The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Pfizer-BioNTech COVID-19 Vaccine in Children Aged 5–11 Years — United States, November 2021

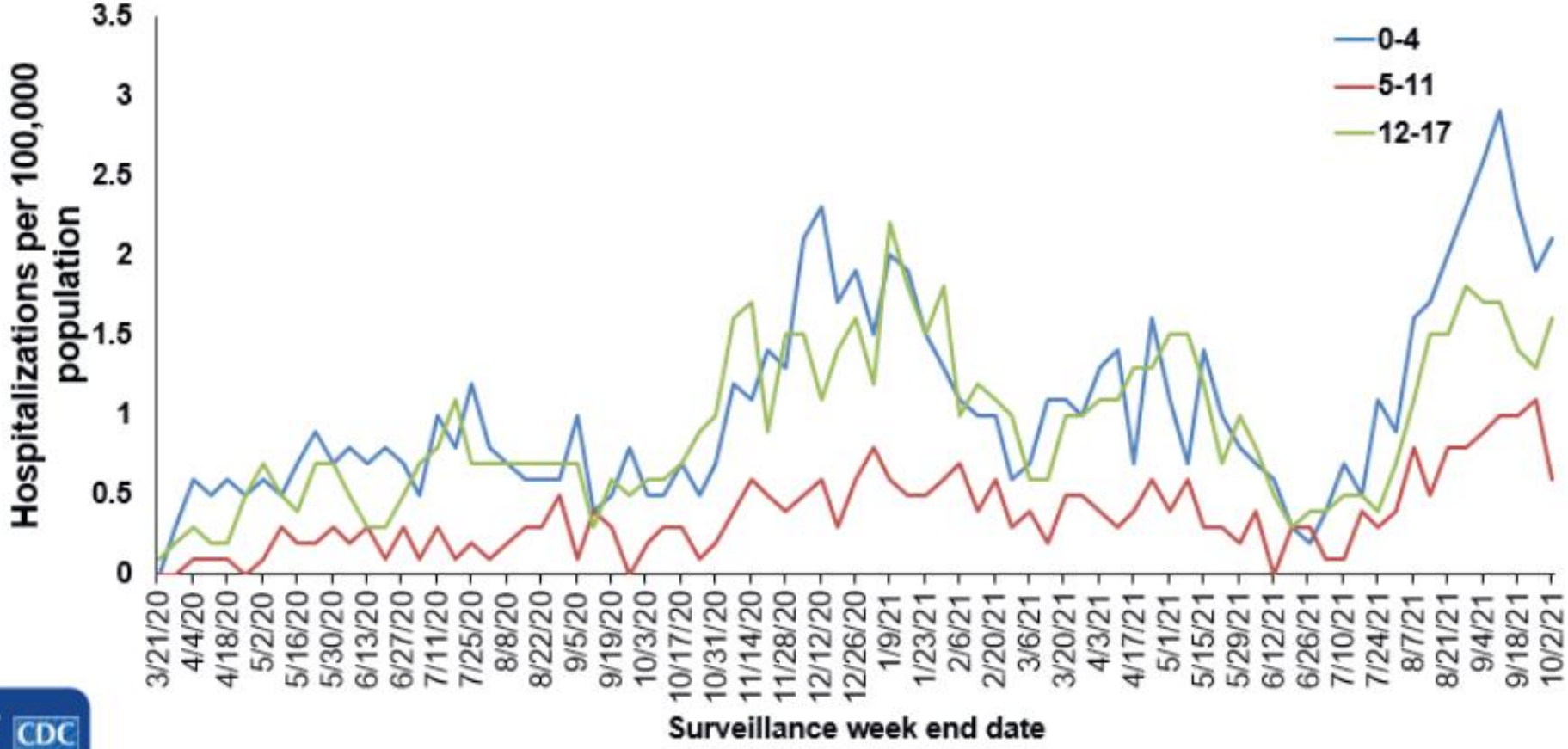
Kate R. Woodworth, MD[1]; Danielle Moulia, MPH[1]; Jennifer P. Collins, MD[1]; Stephen C. Hadler, MD[1]; Jefferson M. Jones, MD[1]; Sujan C. Reddy, MD[1]; Mary Chamberland, MD[1,2]; Doug Campos-Outcalt, MD[3]; Rebecca L. Morgan, PhD[4]; Oliver Brooks, MD[5]; H. Keipp Talbot, MD[6]; Grace M. Lee, MD[7]; Beth P. Bell, MD[8]; Matthew F. Daley, MD[9]; Sarah Mbaeyi, MD[1]; Kathleen Dooling, MD[1]; Sara E. Oliver, MD[1]

COVID-19 Weekly Cases per 100,000 Population by Age — March 1, 2020–October 10, 2021



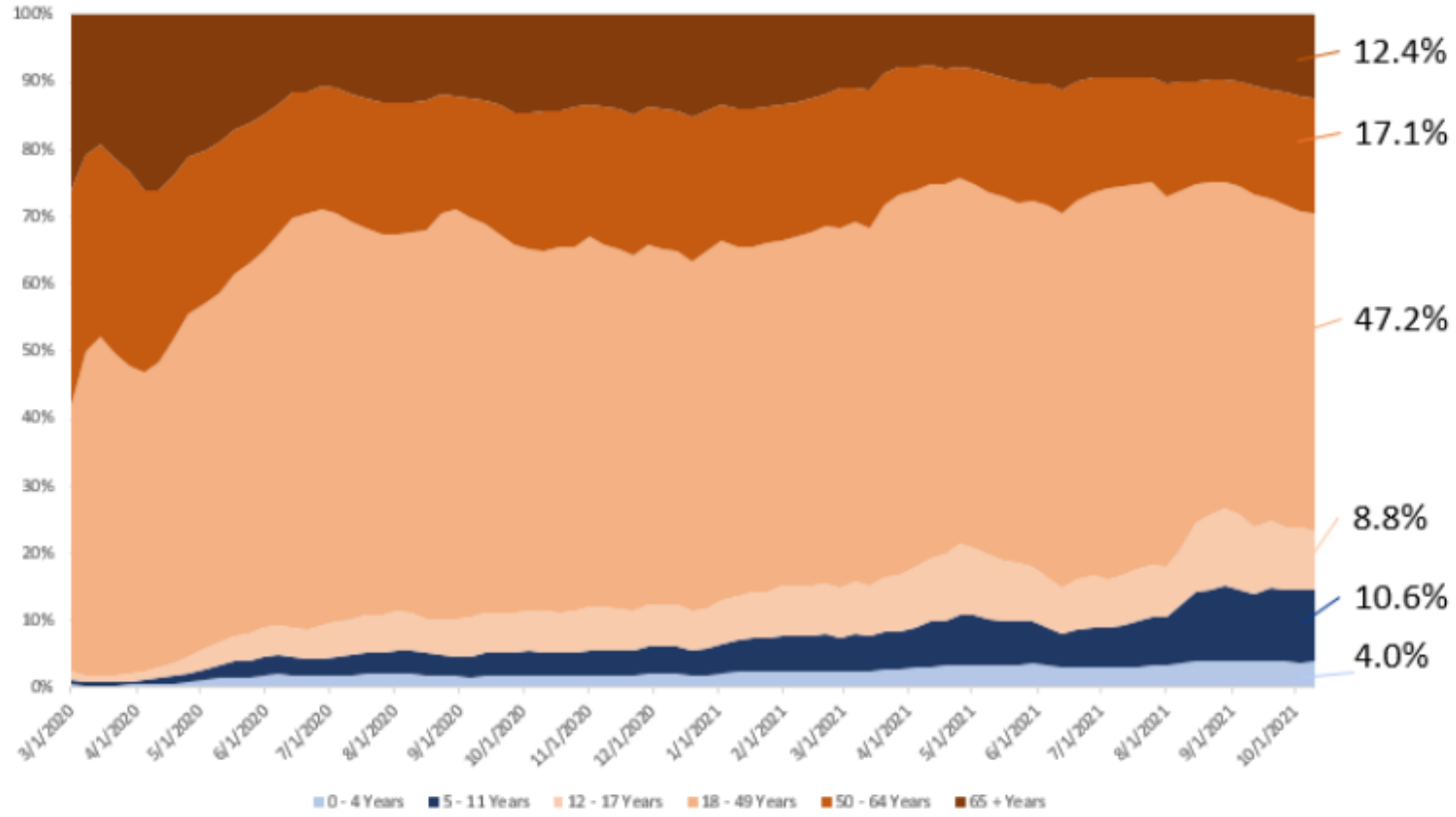
>1.9 million cases among children 5-11 years of age

COVID-19-Associated Weekly Hospitalizations per 100,000 — COVID-NET by age group, March 21, 2020–October 2, 2021



https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html

Proportion of Total COVID-19 Cases by Age Group — March 1, 2020–October 10, 2021



Children 5-11 years are making up a greater proportion of total cases:

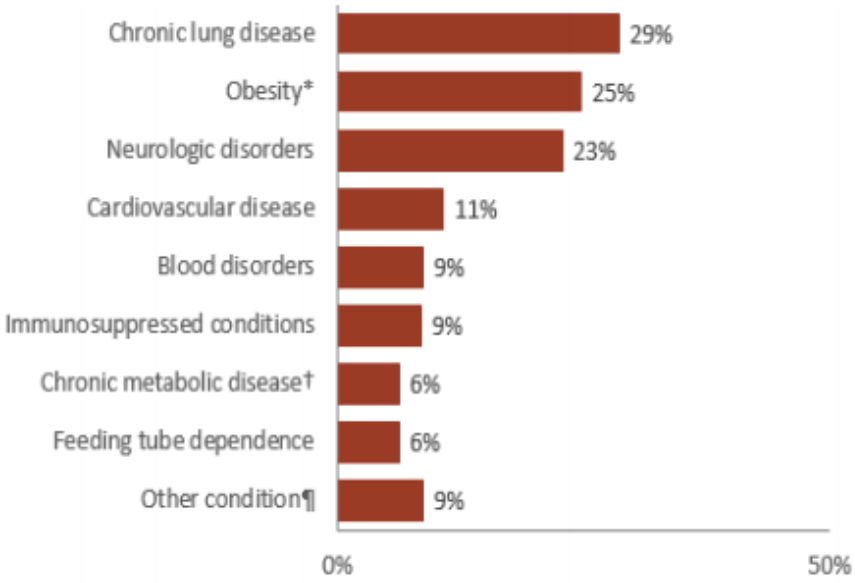
10.6% of cases the week of October 10, 2021

Children Aged 5–11 Years Hospitalized with COVID-19—COVID-NET, March 2020–August 2021

Demographic and clinical characteristics

	N	(%)
Total	562	(100)
Age (yrs) – median (IQR)	8	(6–10)
Sex – Male	320	(57)
Race/ethnicity		
Black, non-Hispanic	207	(37)
Hispanic	177	(31)
White, non-Hispanic	124	(22)
Asian, non-Hispanic	23	(4)
Other, non-Hispanic	31	(6)
Severe disease§	**200**	**(36)**
≥1 underlying condition	**381**	**(68)**

Prevalence of underlying medical conditions



§Requiring intensive care unit admission or mechanical ventilation
*BMI (kg/m²) ≥95th percentile for age and sex based on CDC growth charts, ICD-10 codes for obesity, or obesity selected on case report form
†Includes type I and type II diabetes mellitus
¶Includes gastrointestinal or liver disease; renal disease; rheumatologic, autoimmune, inflammatory conditions; abnormality of the airway
COVID-NET is a population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults through a network of over 250 acute-care hospitals in 14 states. Methods described in: Woodruff RC, et al. Risk factors for Severe COVID-19 in Children. *Pediatrics*. ePub October 2021.

Public Health Agency of Canada | Agence de la santé publique du Canada

Canada

An Advisory Committee Statement (ACS) National Advisory Committee on Immunization (NACI)

Recommendation on the use of the Pfizer-BioNTech COVID-19 vaccine (10 mcg) in children 5-11 years of age

Published: November 19, 2021

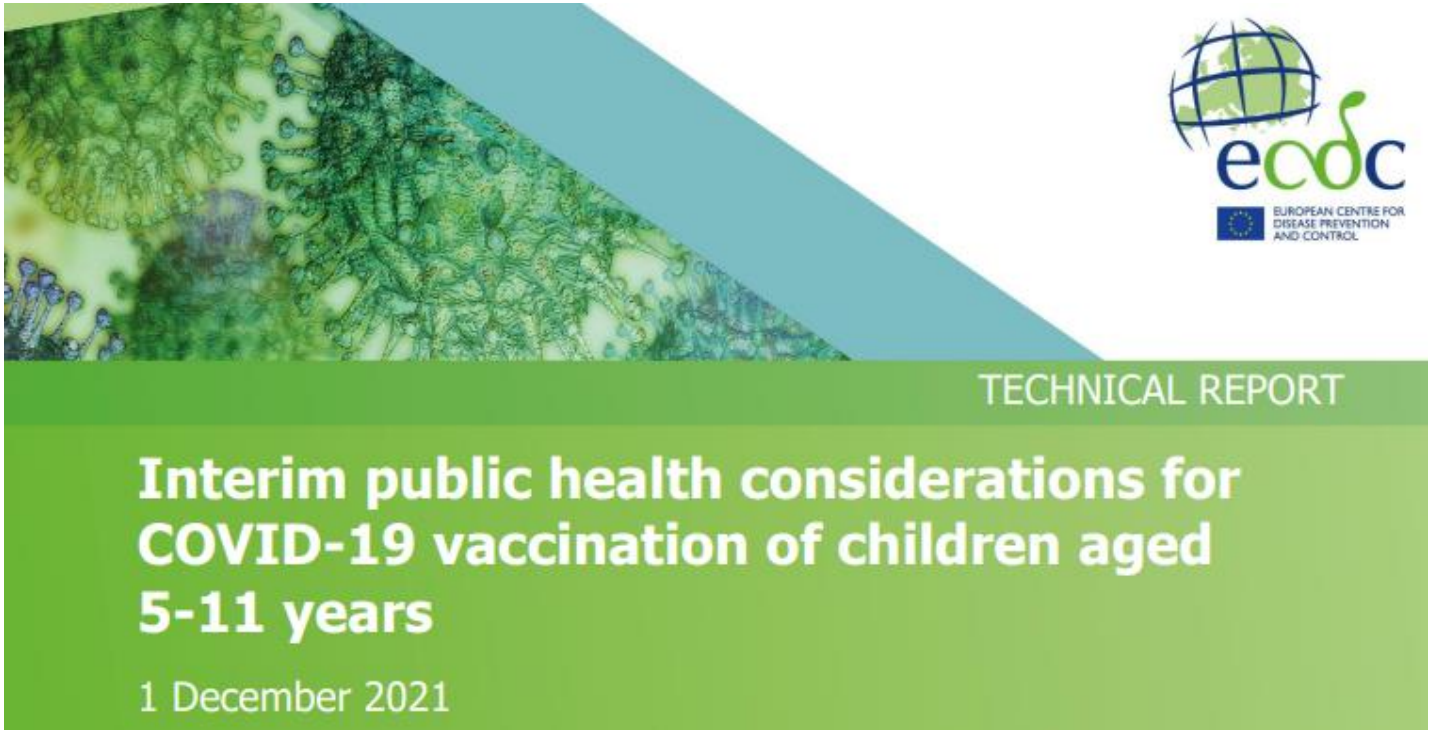
https://www.canada.ca/content/dam/phac-aspc/documents/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/pfizer-biontech-10-mcg-children-5-11-years-age/pfizer-biontech-10-mcg-children-5-11-years-age.pdf

Comirnaty COVID-19 vaccine: EMA recommends approval for children aged 5 to 11

News 25/11/2021

EMA's human medicines committee (CHMP) has recommended granting an extension of indication for the COVID-19 vaccine Comirnaty to include use in children aged 5 to 11. The vaccine, developed by BioNTech and Pfizer, is already approved for use in adults and children aged 12 and above.

In children from 5 to 11 years of age, the dose of Comirnaty will be lower than that used in people aged 12 and above (10 µg compared with 30 µg). As in the older age group, it is given as two injections in the muscles of the upper arm, three weeks apart.



Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine (CoronaVac) in healthy children and adolescents: a double-blind, randomised, controlled, phase 1/2 clinical trial

Bihua Han*, Yufei Song*, Changgui Li*, Wanqi Yang, Qingxia Ma, Zhiwei Jiang, Minjie Li, Xiaojuan Lian, Wenbin Jiao, Lei Wang, Qun Shu, Zhiwei Wu, Yuliang Zhao, Qi Li, Qiang Gao

Summary

Background A vaccine against SARS-CoV-2 for children and adolescents will play an important role in curbing the COVID-19 pandemic. Here we aimed to assess the safety, tolerability, and immunogenicity of a candidate COVID-19 vaccine, CoronaVac, containing inactivated SARS-CoV-2, in children and adolescents aged 3–17 years.

Lancet Infect Dis 2021
Published Online
June 28, 2021
https://doi.org/10.1016/

- **Fases 1 e 2**
- **3-17 anos**
- **750 voluntários**
- **2 doses: Intervalo 28 dias**
- **Estudo de dose escalonada**
- **Segura e imunogênica**
- **Submissão à Anvisa (julho de 2021)**

Ham B. Lancet Infect Dis 2021

Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine (CoronaVac) in healthy children and adolescents: a double-blind, randomised, controlled, phase 1/2 clinical trial

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Summary

Background A vaccine against SARS-CoV-2 for children and adolescents will play an important role in curbing the COVID-19 pandemic. Here we aimed to assess the safety, tolerability, and immunogenicity of a candidate COVID-19 vaccine, CoronaVac, containing inactivated SARS-CoV-2, in children and adolescents aged 3–17 years.

	Phase 1			Phase 2		
	1·5 μg group (n=27)	3 μg group (n=26)	Aluminium hydroxide only group (n=18)	1·5 μg group (n=192)	3·0 μg group (n=191)	Aluminium hydroxide only group (n=96)
Age, years	8·4 (4·2)	8·2 (4·0)	8·3 (4·0)	9·3 (3·9)	9·2 (3·8)	9·1 (4·0)
3–5	9 (33%)	9 (35%)	6 (33%)	48 (25%)	47 (25%)	24 (25%)
6–11	9 (33%)	9 (35%)	6 (33%)	72 (38%)	72 (38%)	36 (38%)
12–17	9 (33%)	8 (31%)	6 (33%)	72 (38%)	72 (38%)	36 (38%)
Sex						
Male	10 (37%)	12 (46%)	8 (44%)	105 (55%)	108 (57%)	54 (56%)
Female	17 (63%)	14 (54%)	10 (56%)	87 (45%)	83 (43%)	42 (44%)
Han ethnicity	27 (100%)	26 (100%)	18 (100%)	192 (100%)	191 (100%)	96 (100%)
Height, m	1·3 (0·2)	1·3 (0·3)	1·3 (0·3)	1·4 (0·2)	1·4 (0·2)	1·4 (0·2)
Weight, kg	34·3 (15·7)	35·0 (14·9)	34·9 (17·7)	40·4 (19·0)	37·9 (16·9)	39·2 (18·9)

Data are mean (SD) or n (%).

Table 1: **Baseline characteristics**

	1·5 μg group		3·0 μg group		Aluminium hydroxide only group		p value	
	Rate	% (95% CI)	Rate	% (95% CI)	Rate	% (95% CI)	Three groups	1·5-μg vs 3·0-μg group
Phase 1								
Total	27/27	100·0% (87·2–100·0)	26/26	100·0% (86·8–100·0)	0/16	0·0% (0·0–20·6)	<0·0001	1·0
3–5 years	9/9	100·0% (66·4–100·0)	9/9	100·0% (66·4–100·0)	0/5	0·0% (0·0–52·2)	<0·0001	1·0
6–11 years	9/9	100·0% (66·4–100·0)	9/9	100·0% (66·4–100·0)	0/6	0·0% (0·0–45·9)	<0·0001	1·0
12–17 years	9/9	100·0% (66·4–100·0)	8/8	100·0% (63·1–100·0)	0/5	0·0% (0·0–52·2)	<0·0001	1·0
Phase 2								
Total	180/186	96·8% (93·1–98·8)	180/180	100·0% (98·0–100·0)	0/94	0·0% (0·0–3·9)	<0·0001	0·030
3–5 years	46/46	100·0% (92·3–100·0)	45/45	100·0% (92·1–100·0)	0/24	0·0% (0·0–14·2)	<0·0001	1·0
6–11 years	68/69	98·6% (92·2–100·0)	68/68	100·0% (94·7–100·0)	0/35	0·0% (0·0–10·0)	<0·0001	1·0
12–17 years	66/71	93·0% (84·3–97·7)	67/67	100·0% (94·6–100·0)	0/35	0·0% (0·0–10·0)	<0·0001	0·059

Data are n/N (% [95% CI]).

Table 3: **Seroconversion rates of neutralising antibody responses to live SARS-CoV-2 28 days after the second dose**

Instituto de Salud Pública
Ministerio de Salud
Gobierno de Chile

643.204 doses aplicadas entre 6-11 anos
71 EAPV, 4 graves (5,6%)
- Encefalomielite
- Convulsão
- Anafilaxia
- Sinovite/Artrite

Informe Estadístico:

ESAVI de Vacuna SARS-CoV-2 (CoronaVac®) notificados

en niños entre 6 a 11 años de edad,

(Periodo 13 septiembre - 7 octubre 2021)

Edad	N° notificaciones de ESAVI		
	Femenino	Masculino	Total
6 años	3	8	11
7 años	6	7	13
8 años	6	5	11
9 años	5	9	14
10 años	3	7	10
11 años	7	5	12
Total	30	41	71


Efectividad de vacunación contra el COVID-19
en menores de 16 años para evitar hospitalización
#YOMEVACUNO
gob.cl/yomevacuno
Sinovac (6 a 11 años)
87,6%
(76.96; 93.38)
Pfizer (12 a 16 años)
94,6%
(87.35; 97.7)
Fuente: Ministerio de Salud


Efectividad de vacunación contra el COVID-19
en menores de 16 años para evitar enfermar
#YOMEVACUNO
gob.cl/yomevacuno
Sinovac (6 a 11 años)
76%
(74.76; 77.6)
Pfizer (12 a 16 años)
86%
(84.6; 87.26)
Fuente: Ministerio de Salud

Miopericardites ou pericardites pós-vacinas COVID-19 – EUA

- Até 18 de agosto de 2021
- 2.574 casos reportados
  - Miopericardite: 1.903
  - Pericardite isolada: 671
  - 922 dos casos com vacina Pfizer pós segunda dose

https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-08-30/03-COVID-Su-508.pdf

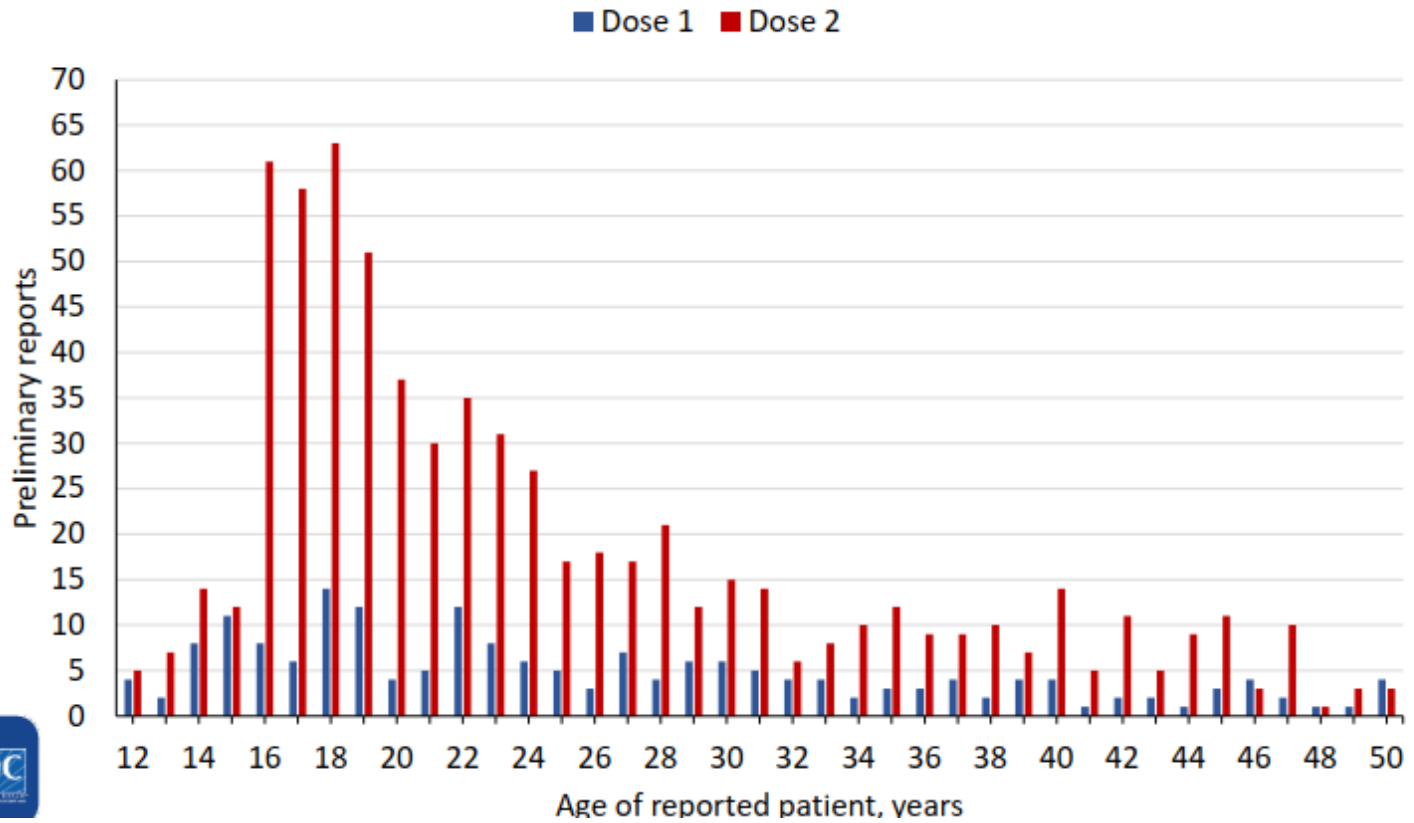
Miopericardites ou pericardites pós-vacinas COVID-19 – EUA - até 18/08/2021

Manufacturer	Reports after dose 1	Reports after dose 2	Reports after unknown dose
Pfizer-BioNTech (n=1,282)	169	922	191
Moderna (n=557)	133	339	85
Janssen (n=49)	33	1	15
Not reported (n=15)	2	9	4
Total (N=1,903)	**337**	**1,271**	**295**

https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-08-30/03-COVID-Su-508.pdf

Preliminary reports of myocarditis/pericarditis to VAERS after mRNA COVID-19 vaccination by age and dose number*

(as of Jun 11, 2021)



* Age truncated at >50yr: Reports of persons >50yr of age include 70 after Dose 1, 119 after Dose 2

Miopericacardite pós-vacinas COVID
Risco por idade, sexo e dose, por milhão de doses administradas

	Pfizer		Moderna		Janssen	Pfizer		Moderna		Janssen	Pfizer		Moderna		Janssen
	(All)		(All)		(All)	(Males)		(Males)		(Males)	(Females)		(Females)		(Females)
Ages† (yrs)	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1
12–15	2.6	20.9	0.0	not calc.	0.0	4.8	42.6	0.0	not calc.	0.0	0.5	4.3	0.0	0.0	0.0
16–17	2.5	34.0	0.0	14.6	0.0	5.2	71.5	0.0	31.2	0.0	0.0	8.1	0.0	0.0	0.0
18–24	1.1	18.5	2.7	20.2	2.7	2.4	37.1	5.1	37.7	3.0	0.0	2.6	0.7	5.3	1.6
25–29	1.0	7.2	1.7	10.3	1.9	1.8	11.1	3.2	14.9	2.0	0.3	1.3	0.4	6.3	0.0
30–39	0.8	3.4	1.0	4.2	0.4	1.1	6.8	1.6	8.0	0.0	0.6	1.0	0.4	0.7	1.0
40–49	0.4	2.8	0.5	3.2	1.2	0.7	4.4	0.6	4.6	2.2	0.1	1.8	0.4	2.1	0.0
50–64	0.2	0.5	0.6	0.8	0.2	0.2	0.5	0.4	1.0	0.0	0.3	0.8	0.8	0.7	0.5
65+	0.2	0.3	0.2	0.3	1.0	0.2	0.4	0.4	0.4	1.0	0.2	0.4	0.1	0.2	0.9

https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-08-30/03-COVID-Su-508.pdf

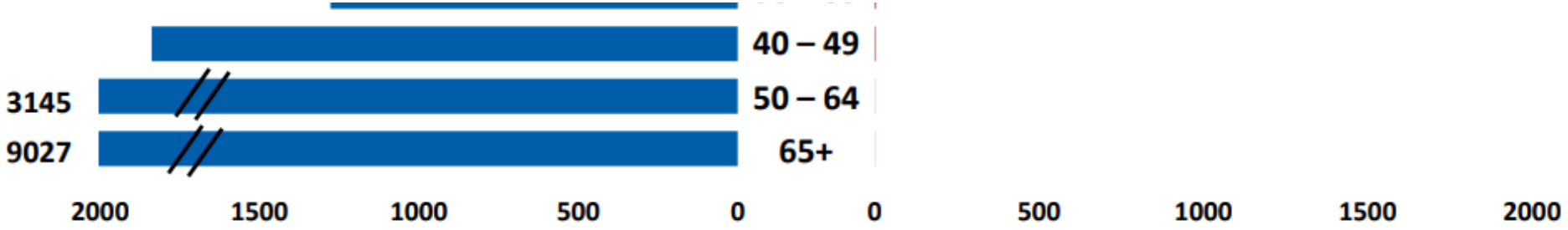
COVID-19 mRNA vaccines in adolescents and young adults

Ber

risk[1]

Risk after COVID-19 mRNA vaccines in adolescents and young adults

Benefits of COVID-19 mRNA vaccines in adolescents and young adults



Predicted cases prevented vs. myocarditis cases for every milli

COVID-19 mRNA vaccines in adolescents and young adults

Risk after COVID-19 mRNA vaccines in adolescents and young adults

Benefits of COVID-19 mRNA vaccines in adolescents and young adults

evented

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nted

8–10 myocarditis cases

56–69 myocarditis cases

Hospitalizations, ICU admissions and deaths based on data for week of May 22, 2021.

Miocardite pós-vacina RNAm - Israel

Myoca
in a

Guy Wi
Ilan Richt
Tzlil Grinber
Ran D.

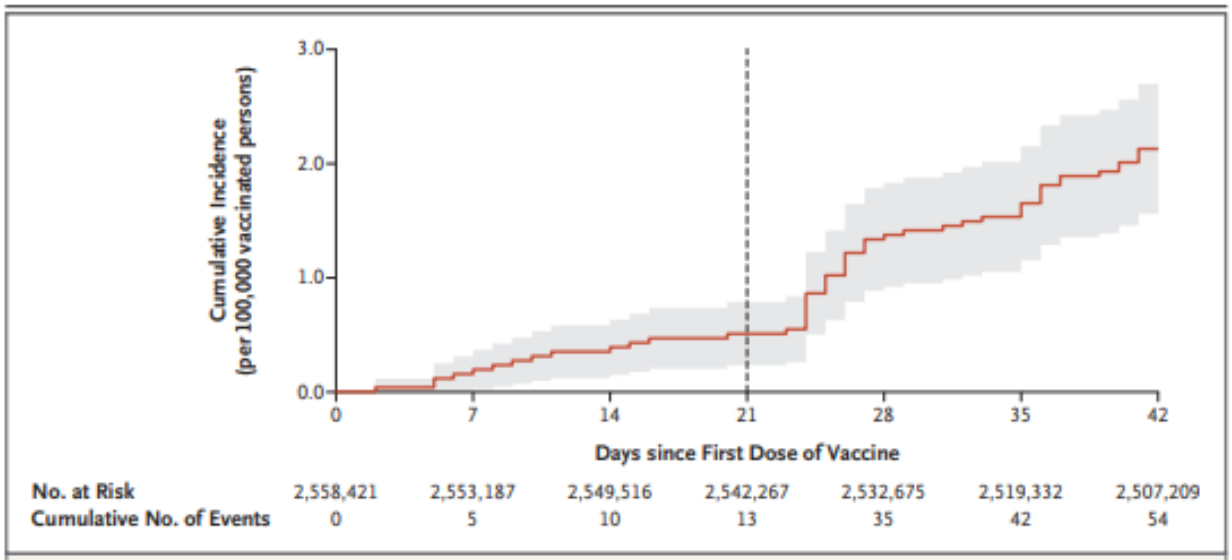

Figure 1. Kaplan–Meier Estimates of Myocarditis at 42 Days.

Shown is the cumulative incidence of myocarditis during a 42-day period after the receipt of the first dose of the BNT162b2 messenger RNA coronavirus disease 2019 (Covid-19) vaccine. A diagnosis of myocarditis was made in 54 patients in an overall population of 2,558,421 vaccinated persons enrolled in the largest health care organization in Israel. The vertical line at 21 days shows the median day of administration of the second vaccine dose. The shaded area shows the 95% confidence interval.

: mais de 2M

erados;
iogênico;
seguimento,

ventricular
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m.

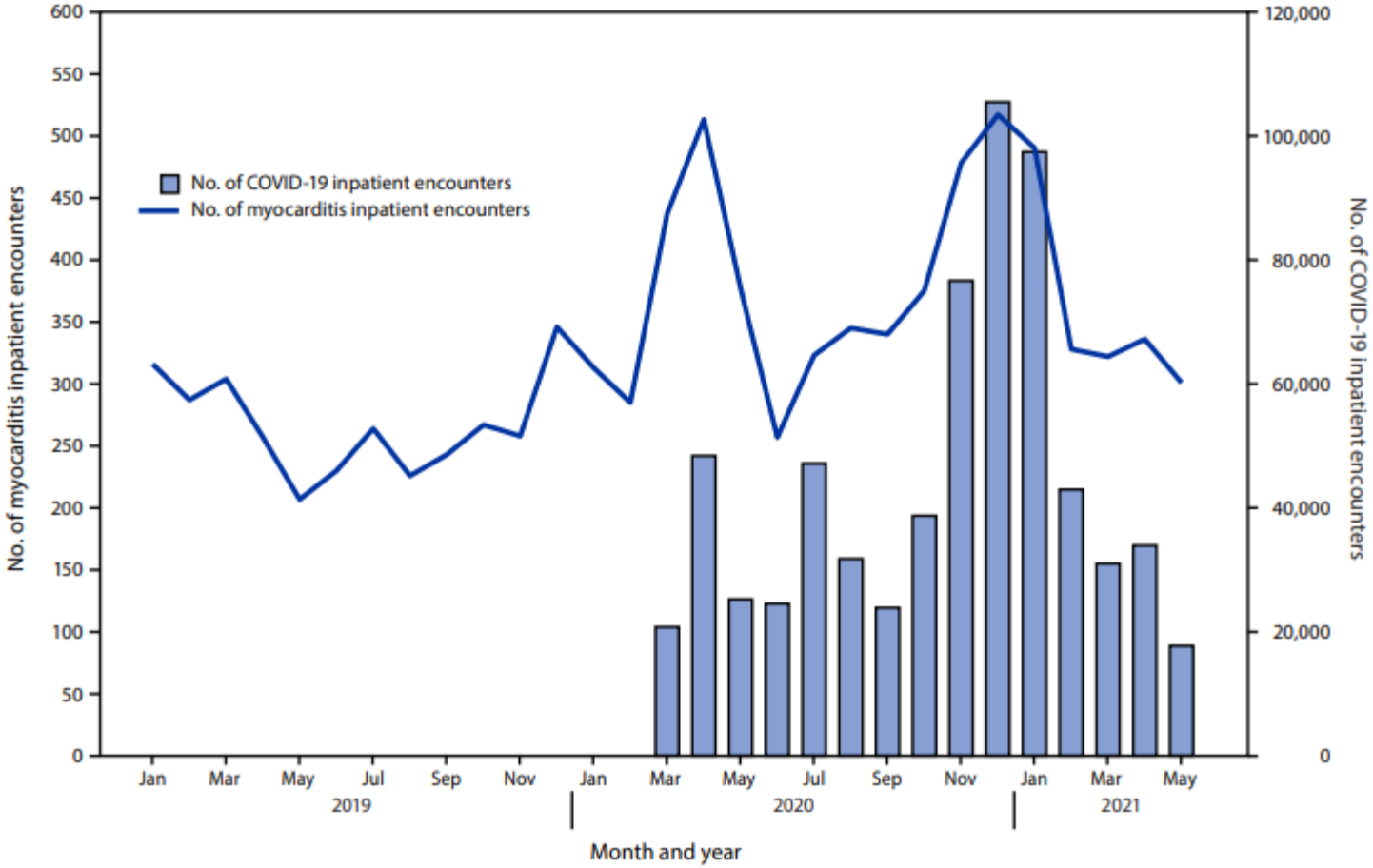
In this retrospective cohort study involving persons who were 16 years of age or older in a large Israeli health care system, the estimated incidence of myocarditis in the 42 days after receipt of at least one dose of the BNT162b2 mRNA vaccine was 2.13 cases per 100,000 vaccinated persons and 10.69 cases per 100,000 in male patients between the ages of 16 and 29 years. Most cases of myocarditis were of mild or intermediate severity.

https://www.nejm.org/doi/pdf/10.1056/NEJMoa2110737?articleTools=true

Association Between COVID-19 and Myocarditis Using Hospital-Based Administrative Data — United States, March 2020–January 2021

Tegan K. Boehmer, PhD[1,*]; Lyudmyla Kompaniyets, PhD[1,*]; Amy M. Lavery, PhD[1]; Joy Hsu, MD[1]; Jean Y. Ko, PhD[1]; Hussain Yusuf, MD[1]; Sebastian D. Romano, MPH[1]; Adi V. Gundlapalli, MD, PhD[1]; Matthew E. Oster, MD[1,2,3]; Aaron M. Harris, MD[1]

FIGURE 1. Number of myocarditis and COVID-19 inpatient encounters, by month* — Premier Healthcare Database Special COVID-19 Release, United States, January 2019–May 2021



* Data from recent months might be incomplete.

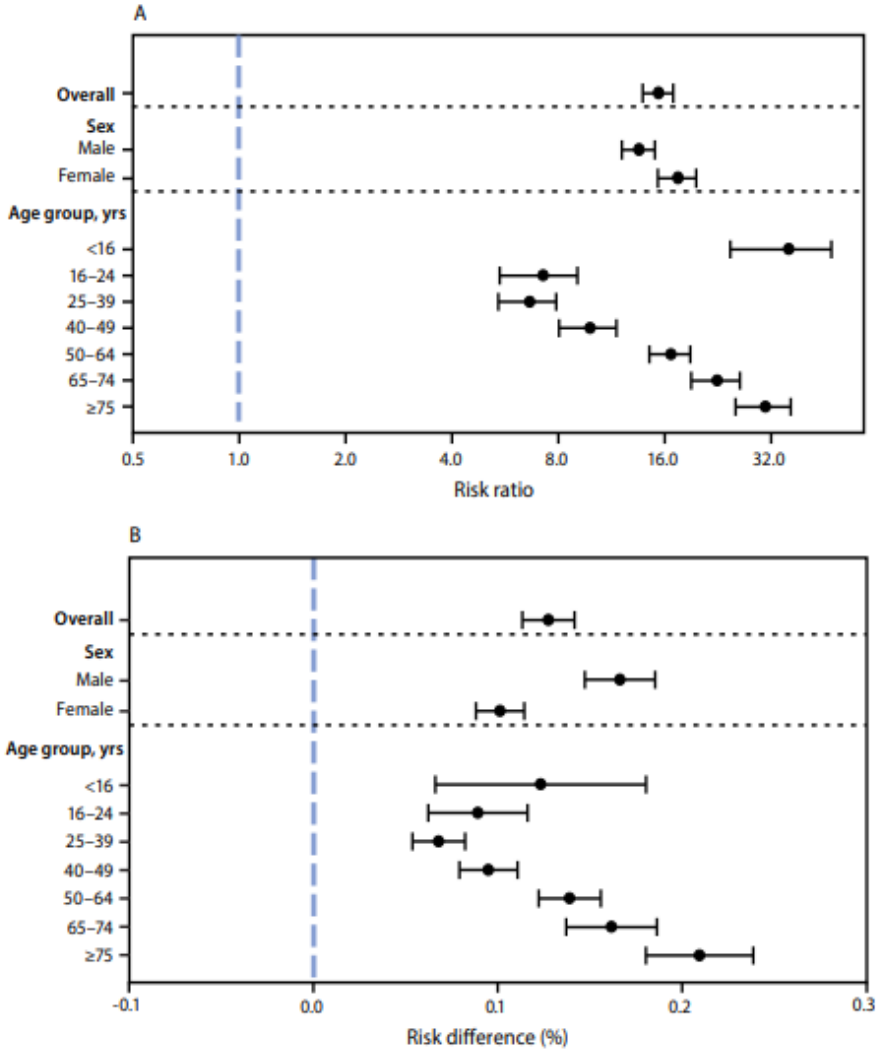
Morbidity and Mortality Weekly Report

Association Between COVID-19 and Myocarditis Using Hospital-Based Administrative Data — United States, March 2020–January 2021

Tegan K. Boehmer, PhD[1,*]; Lyudmyla Kompaniyets, PhD[1,*]; Amy M. Lavery, PhD[1]; Joy Hsu, MD[1]; Jean Y. Ko, PhD[1]; Hussain Yusuf, MD[1]; Sebastian D. Romano, MPH[1]; Adi V. Gundlapalli, MD, PhD[1]; Matthew E. Oster, MD[1,2,3]; Aaron M. Harris, MD[1]

During March 2020–January 2021, patients with COVID-19 had nearly 16 times the risk for myocarditis compared with patients who did not have COVID-19, and risk varied by sex and age.

FIGURE 2. Adjusted risk ratio (A) and adjusted risk difference (B) of myocarditis comparing patients with and without COVID-19,* overall and by sex and age group — Premier Healthcare Database Special COVID-19 Release, United States, March 2020–January 2021



CDC 24/7: Saving Lives, Protecting People™

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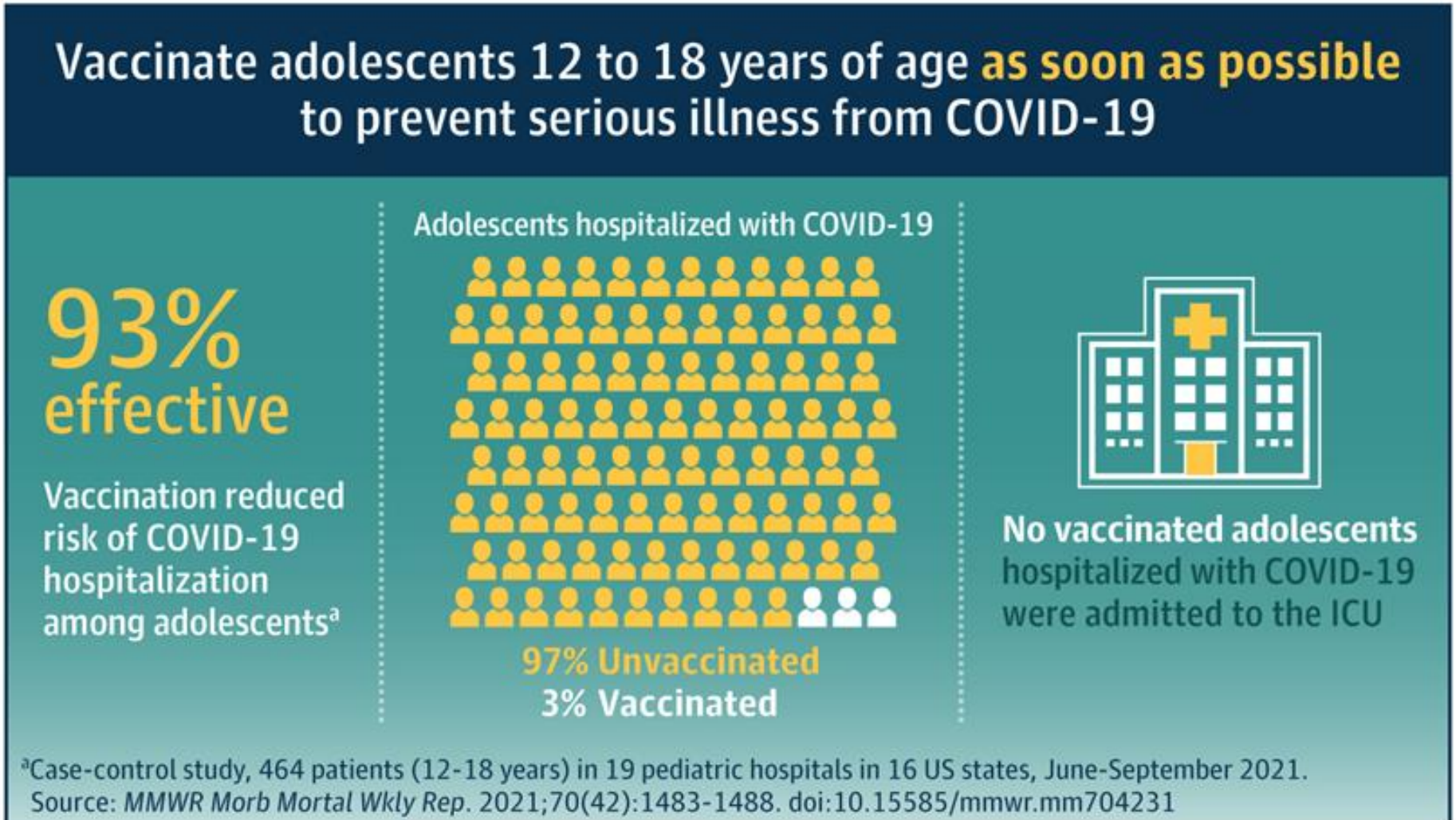
Morbidity and Mortality Weekly Report (*MMWR*)

CDC

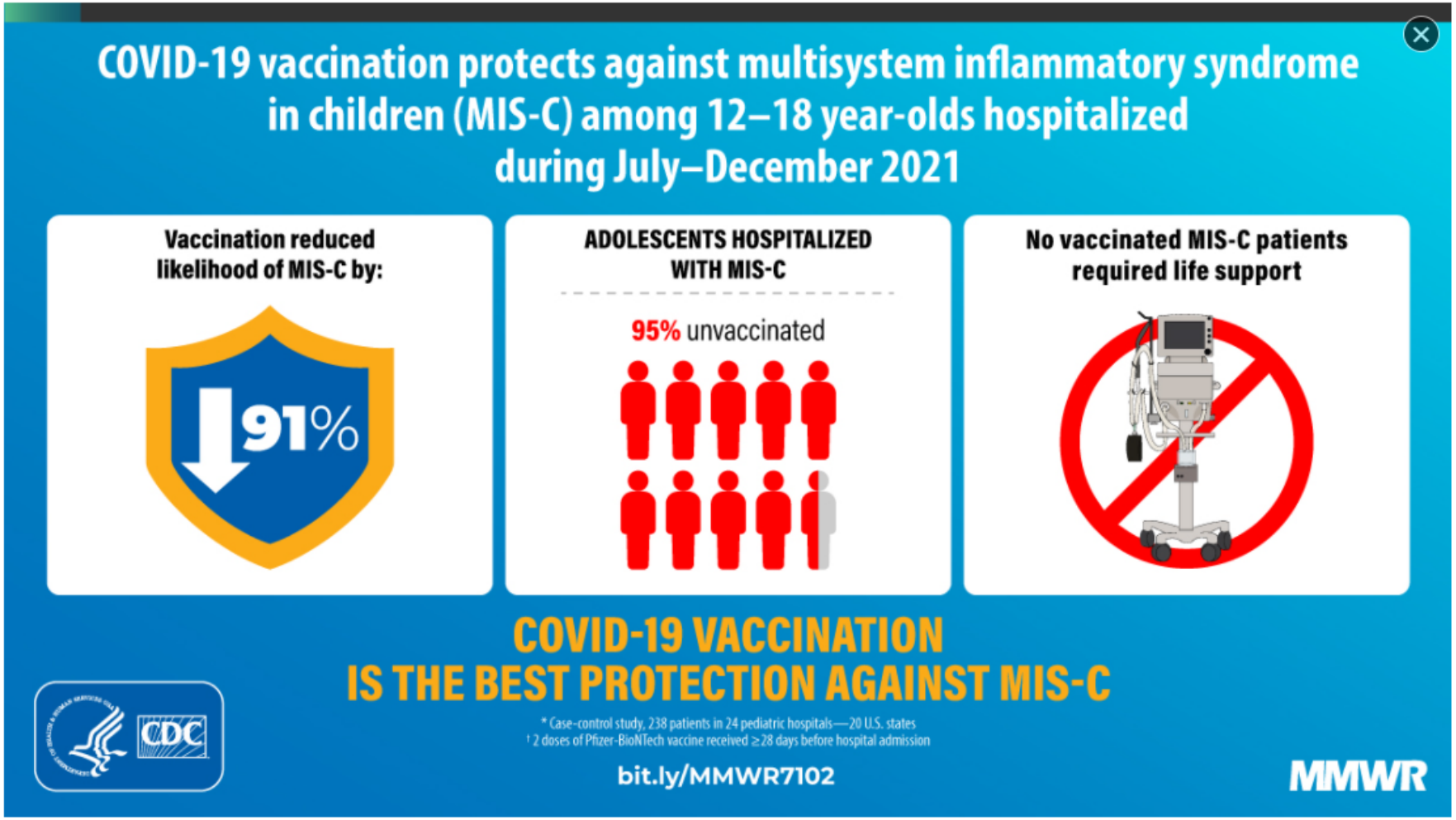
Effectiveness of Pfizer-BioNTech mRNA Vaccination Against COVID-19 Hospitalization Among Persons Aged 12–18 Years — United States, June–September 2021

Weekly / October 22, 2021 / 70(42);1483–1488



Morbidity and Mortality Weekly Report

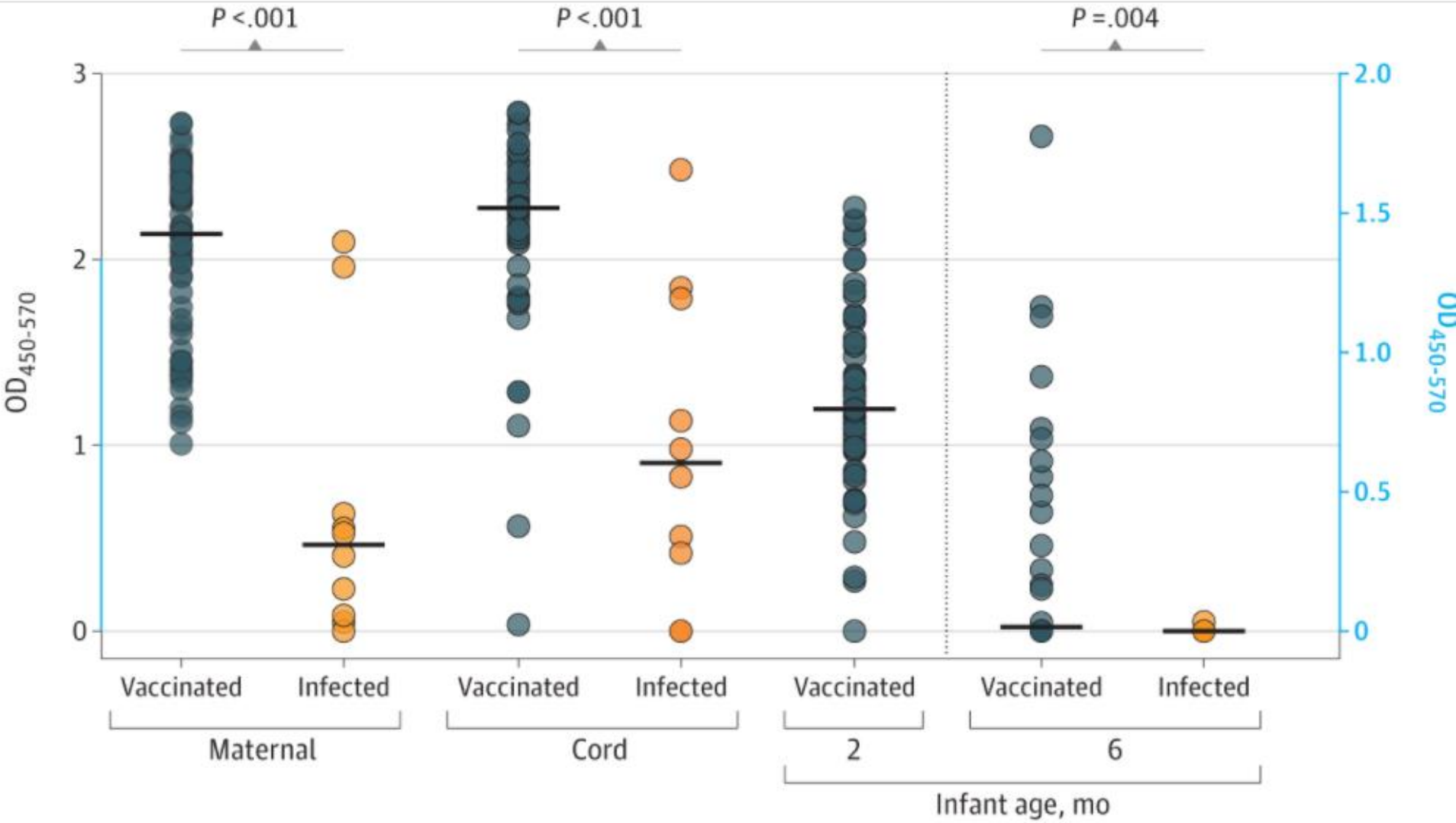
Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem Inflammatory Syndrome in Children Among Persons Aged 12–18 Years — United States, July–December 2021



https://www.cdc.gov/mmwr/volumes/71/wr/mm7102e1.htm?s_cid=mm7102e1_w

Caracterizamos a persistência do IgG materno induzido por vacinas no sangue infantil e comparamos a persistência do IgG anti-S infantil após a vacinação materna versus infecção natural.

Shook LL, Atyeo CG, Yonker LM, et al. Durability of Anti-Spike Antibodies in Infants After Maternal COVID-19 Vaccination or Natural Infection. *JAMA.* Published online February 07, 2022.



Shook LL, Atyeo CG, Yonker LM, et al. Durability of Anti-Spike Antibodies in Infants After Maternal COVID-19 Vaccination or Natural Infection. *JAMA.* Published online February 07, 2022.

Posicionamento SBIm/SBI/SBP sobre a vacinação de crianças de 3 a 17 anos contra a Covid-19 com a vacina Sinovac©– (Coronavac)

Posicionamento SBIm/SBI/SBP sobre a vacinação de crianças de 5 a 11 anos contra a Covid-19 com a vacina Pfizer/BioNTech – 20/12/2021

https://sbim.org.br/informes-e-notas-tecnicas/sbim

Ministério da Saúde
Secretaria Extraordinária de Enfrentamento à COVID-19
Gabinete

NOTA TÉCNICA Nº 2/2022-SECOVID/GAB/SECOVID/MS

1. **ASSUNTO**

1.1. Cuida-se de vacinação não obrigatória de crianças de 05 a 11 anos contra Covid-19 durante a Pandemia da Covid-19.

2 **DA PRELIMINAR**

Ministério da Saúde
Secretaria Extraordinária de Enfrentamento à COVID-19
Gabinete

NOTA TÉCNICA Nº 6/2022-SECOVID/GAB/SECOVID/MS

1. **ASSUNTO**

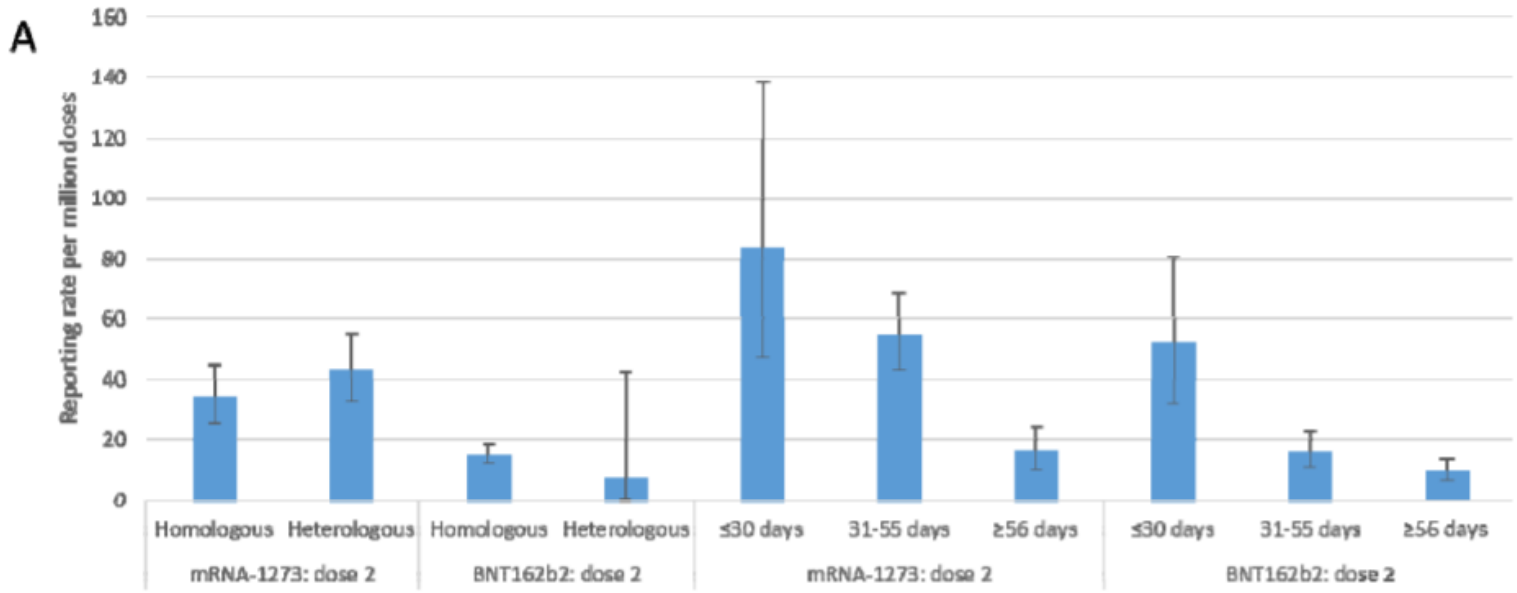
1.1. Autorização de vacinação de crianças de 6 ou mais e adolescentes até 17 anos com a Coronavac, desde que tais grupos não sejam imunossuprimidos, após a Anvisa realizar a Autorização Temporária de Uso Emergencial da Vacina Adsorvida COVID-19 - Coronavac.

Epidemiology of myocarditis and pericarditis following mRNA vaccines in Ontario, Canada: by vaccine product, schedule and interval

Sarah A. Buchan, PhD[1,2,3], Chi Yon Seo, MSc[1], Caitlin Johnson, MPH[1], Sarah Alley, MPH[1], Jeffrey C. Kwong, MD[1,2,3,4,5], Sharifa Nasreen, PhD[2,3], Andrew Calzavara, MSc[2], Diane Lu, MD[1], Tara M. Harris, MHSc[1], Kelly Yu, MPH[1], Sarah E. Wilson, MD[1,2,3]

1. Public Health Ontario, ON, Canada
2. Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada
3. ICES, Toronto, ON, Canada
4. Department of Family and Community Medicine, University of Toronto, Toronto, ON, Canada
5. University Health Network, Toronto, ON, Canada

Figure 1. Overall reporting rate of myocarditis/pericarditis among people who have completed their two-dose series with dose 2 on or after June 1, 2021 by A) homologous/heterologous schedule and inter-dose interval and B) homologous/heterologous schedule by inter-dose interval



Aplicação simultânea com outras vacinas

Ministério da Saúde
Secretaria de Vigilância em Saúde
Departamento de Imunização e Doenças Transmissíveis
Coordenação-Geral do Programa Nacional de Imunizações

NOTA TÉCNICA Nº 1203/2021-CGPNI/DEIDT/SVS/MS

1. **ASSUNTO**

1.1. Atualizações das orientações referentes a co-administração das vacinas covid-19 e as demais vacinas do calendário vacinal.

3. **CONCLUSÃO**

3.1. Frente a necessidade de ampliação das coberturas vacinais e minimização de oportunidades perdidas. Considerando a ampla experiência prévia com a administração simultânea de múltiplas vacinas de diferentes plataformas. Considerando já ter sido possível acumular experiência de uso das vacinas covid-19 em cenário de vida real com detalhamento do perfil de segurança destas vacinas. Tendo por base as discussões realizadas no âmbito da Câmara Técnica em Imunização da Covid-19. O Ministério da Saúde opta por, neste momento, atualizar as recomendações referentes a co-administração das vacinas covid-19 com as demais vacinas em uso no país para não mais exigir o intervalo mínimo entre as vacinas covid-19 e as demais vacinas em uso no país. Desta forma **as vacinas covid-19 poderão ser administradas de maneira simultânea com as demais vacinas ou em qualquer intervalo**.

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