



Vaccinarea la pacienti cu boli respiratorii cronice

Claudia Toma

Carol Davila University of Medicine and Pharmacy

Marius Nasta Institute of Pneumology

– Bucharest –

Indicatia de vaccinare la pacientii cu boli respiratorii cronice

- Boli respiratorii cronice
 - Bronsiectazii (chistice)
 - BPOC, astm
 - Cancer pulmonar
 - Pneumopatii interstițiale difuze
 - Boli rare pulmonare
 - Hipertensiunea arteriala pulmonara

Tipurile de vaccinare indicate la pacientii cu boli respiratorii cronice

- 1. Vaccinare antigripala**
- 2. Vaccinare antipneumococica**
- 3. Vaccinare anti-SARS-CoV2**
- (4.) Lizate bacteriene liofilizate



Vaccinarea antigripala

- Vaccinare antigripala **anuala**
 - indicata la toti pacientii cu boli respiratorii cronice
 - in sezonul toamna-iarna in emisfera nordica
- O singura restrictie temporara – Boli acute febrile

Vaccinarea antigripala

2019-2020 Flu Season: Burden and Burden Averted by Vaccination

During the 2019-2020 season, CDC estimates flu caused:

- 38 million** flu illnesses
- 400,000** flu hospitalizations
- 22,000** flu deaths

It could have been even worse without flu vaccines.

Nearly 52% of the U.S. population 6 months and older got a flu vaccine during the 2019-2020 flu season, and this prevented an estimated:

- 7.5 million** flu illnesses
More than the combined population of Kentucky and Kansas
- 105,000** hospitalizations
Enough people to fill Michigan Stadium at the University of Michigan
- 6,300** deaths
Equivalent to saving about 17 lives per day over the course of a year

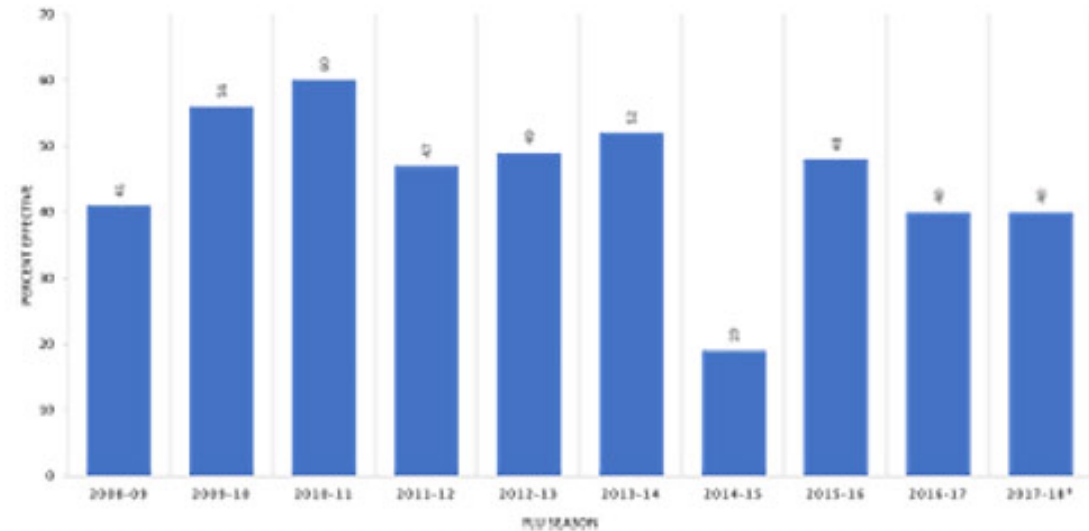
Imagine the impact if more Americans chose to get a flu vaccine. Many more flu illnesses, flu hospitalizations, and flu deaths could be prevented. The estimates for the 2019-2020 influenza season are preliminary pending additional data from the season.

<https://www.cdc.gov/flu/about/burden/index.html>



get vaccinated
www.cdc.gov/flu
September 2020

Effectiveness of Seasonal Flu Vaccines from the 2008 – 2018 Flu Seasons



Vaccinarea antipneumococica

- Indicata la pacientii cu boli respiratorii cronice cu risc de infectii pneumococice sau cu risc de evolutie severa in cazul unei infectii pneumococice
 - Bronsiectazii
 - BPOC
 - Pneumopatii interstitiale difuze fibrozante (bronsiectazii de tractiune)
 - Cancer pulmonar
 - Orice pacient cu boala respiratorie cronica care a avut o boala pneumococica (pneumonie pneumococica, bacteriemie, meningita cu pneumococ)
-

Incidenta si mortalitatea prin boli pneumococice invasive (pneumonie, bacteriemie, meningita) in SUA (2010)

Incidence and mortality rates of invasive pneumococcal disease in the United States, 2010 — Active Bacterial Core Surveillance (ABCs) report, Emerging Infections Program Network

Age (years)	Cases		Deaths	
	Number	(Rate*)	Number	(Rate*)
<1	142	(34.2)	1	(0.24)
1	112	(26.6)	1	(0.24)
2 to 4	171	(13.1)	1	(0.08)
5 to 17	111	(2.2)	1	(0.02)
18 to 34	260	(3.8)	18	(0.26)
35 to 49	670	(10.5)	43	(0.68)
50 to 64	1064	(18.8)	103	(1.82)
≥65	1292	(36.4)	199	(5.61)
Total:	3822	(12.8)	367	(1.23)

* Cases or deaths per 100,000 population for ABCs areas, which represent nearly 30,000,000 persons in certain counties in 10 states in the United States.

Tipuri de vaccinuri antipneumococice

1. **Vaccinul antipneumococic polizaharidic** – compus din polizaharide capsulare pneumococice partial purificate
 - **Pneumo23**
 - **Pneumovax23**
2. **Vaccinul antipneumococic conjugat** – compus din polizaharide capsulare pneumococice legate covalent (conjugate) de o proteina nontoxica
 - **Prevenar 13**

Vaccinul antipneumococcic polizaharidic

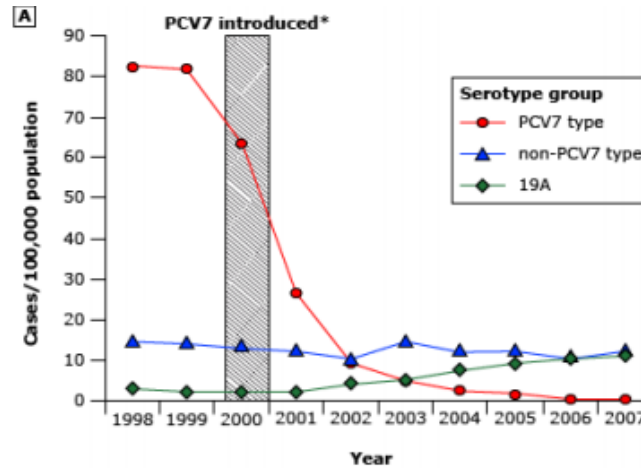
- Contin 23 polizaharide pneumococice
 - In trecut aceste 23 serotipuri → 85-90% dintre bolile pneumococice
 - In prezent → cca 50-60% dintre bolile pneumococice
- Protejeaza adultii intr-o proportie de **50-85%** de infectiile pneumococice

Vaccinul antipneumococcic conjugat

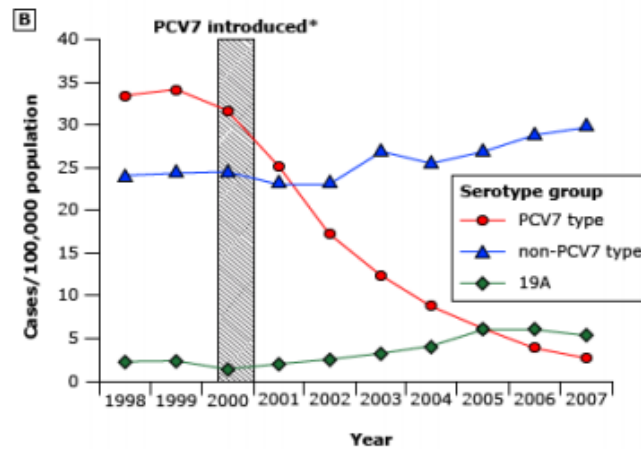
- Sugarii/copiii mici nu dezvoltă răspuns imun la antigenele polizaharidice dar, dacă acestea sunt legate de o proteină → producție de anticorpi
 - Sunt principalul rezervor de pneumococi în populație
 - Vaccinarea lor cu vaccin conjugat → ↓↓↓ a incidenței infecțiilor pneumococice la adulți în SUA
- Stimulează răspunsul imun al mucoaselor → eradicarea portajului naso-faringian
- Metaanaliza a 18 studii clinice – 64.500 indivizi
 - ↓ riscului de boala pneumococică invazivă / noninvazivă
 - Beneficiu mai mare în prevenția infecțiilor cu serotipurile incluse

Scaderea incidentei bolilor pneumococice dupa introducerea vaccinurilor conjugate

Eficacitate de 71%



Copii



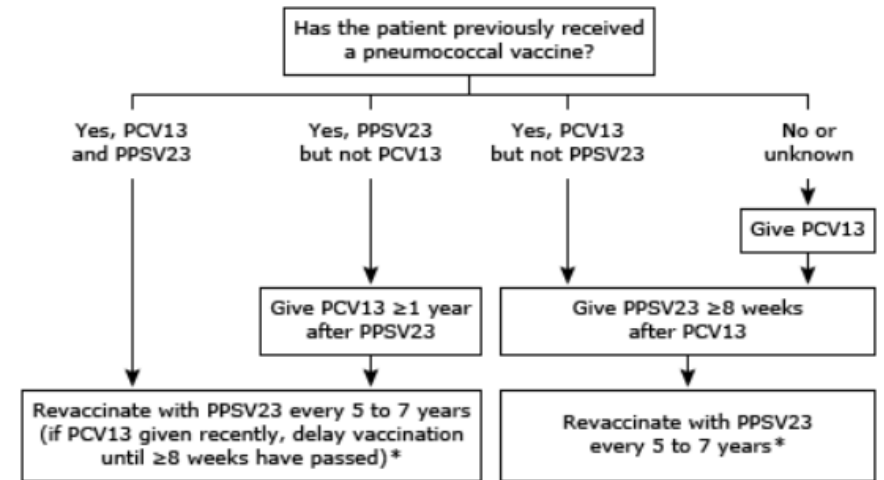
Adulti >65 ani

Vaccinarea antipneumococica

- Adulti 19-64 ani sanatosi – nu se recomanda
 - Adulti 19-64 ani cu boli cronice
 - Boli respiratorii cronice
 - Boli cardiace (exclusiv HTA)
 - Boli hepatice
 - Boli renale (sindrom nefrotic, hipogamaglobulinemii)
 - Diabet zaharat
 - Alcoolism
 - Fumatori
 - **O doza de Pneumovax 23 + revaccinare la 10 ani**
 - Adulti >65 ani - **O doza de Pneumovax 23**
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Vaccinarea antipneumococica

- Adulti cu risc crescut de meningita (implant cohlear, pierderi de LCR), istoric de boala pneumococica invaziva
- La adultii nevaccinati anterior → o doza de **Prevenar 13**, urmata de o doza de **Pneumovax 23** la ≥ 8 sapt.
- La adultii vaccinati anterior cu Pneumo23 /Pneumovax 23 → o doza de **Prevenar 13** la ≥ 1 an dupa primul



CSF: cerebrospinal fluid; PCV13: 13-valent pneumococcal conjugate vaccine; PPSV23: 23-valent pneumococcal polysaccharide vaccine.

* UpToDate's recommendations differ from those of the United States Advisory Committee on Immunization Practices (ACIP). The ACIP recommends a single dose of PPSV23 for patients aged 19 to 64 and a single revaccination dose once the patient reaches age 65. We recommend revaccination at more frequent intervals because immunity to PPSV23 wanes with time.

Vaccinare antipneumococica (ambele tipuri de vaccin)

- Infectii HIV
 - Boli renale cronice
 - Hemopatii maligne
 - Cancere generalizate / in curs de chimioterapie
 - Transplantati de organ/celule stem
 - Imunosupresii iatrogene
 - Imunodeficiente congenitale/dobandite

 - **1 doza Prevenar 13** (0,5ml) **si 1 doza Pneumovax 23** (0,5ml) **la ≥ 8 sapt.**
-

Vaccinare antipneumococica

- Se poate administra în același timp cu alte vaccinuri (vaccinul antigripal)
 - Seringi diferite
 - Locuri diferite de injecție
- **Reacții adverse**
 - Durere – 50%
 - Tumefacție locală – 20%
 - Eritem local – 15%
 - Febră < 5%
 - Frisonete, fatigabilitate, cefalee, mialgii, artralgii → de obicei ușoare
- **CI** – anafilaxie la compoziții ai vaccinului

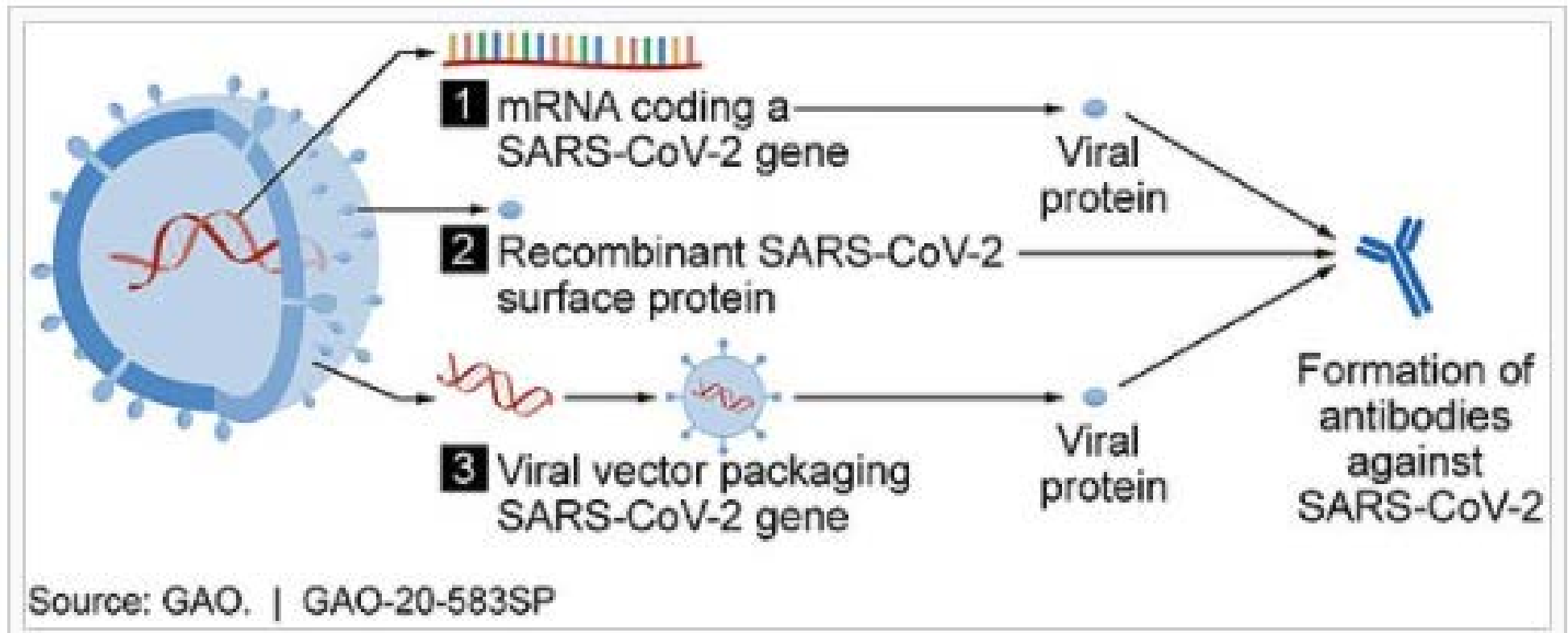
Vaccinarea anti-SARS-CoV2

- **Februarie 2021 – 66 vaccinuri in studii clinice**

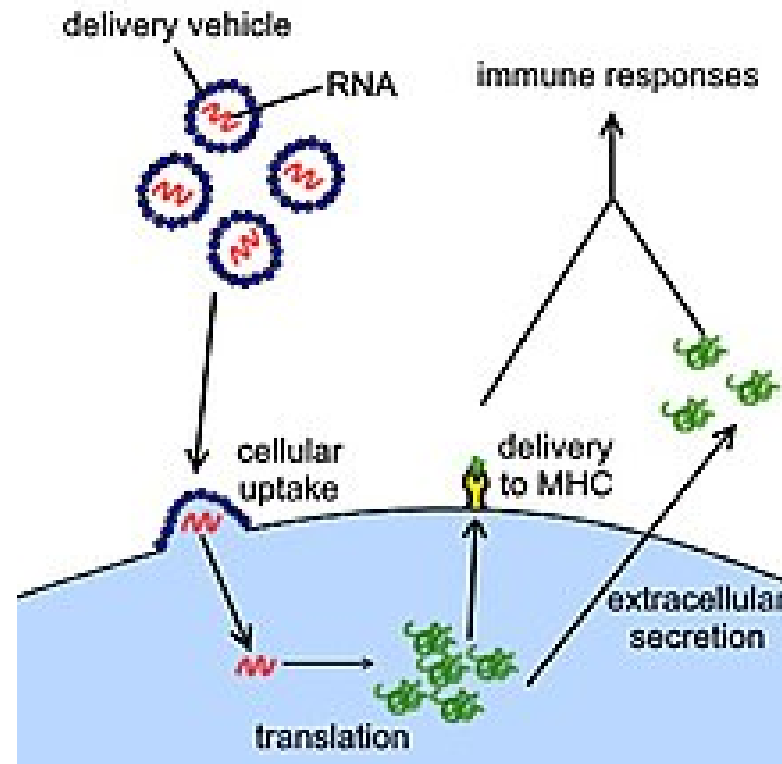
1. BNT162b2 (Vaccin Pfizer-BioNTech COVID-19) – indicat la persoane peste 16 ani
 2. mRNA-1273 (Vaccin Moderna COVID-19) – indicat la persoane peste 18 ani
 3. ChAdOx1 nCoV-19 (Vaccin AstraZeneca AZD1222) – indicat intre 18-65 ani

 4. Ad26.COV2.S (Vaccin Janssen/Johnson & Johnson COVID-19) – indicat la persoane peste 18 ani
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Mecanism de actiune



Mecanism de actiune al vaccinurilor ARNm



BNT162b2 mRNA Covid-19 Pfizer-BioNTech Vaccine



Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine

Fernando P. Polack, M.D., Stephen J. Thomas, M.D., Nicholas Kitchin, M.D., Judith Absalon, M.D.,
Alejandra Gurtman, M.D., Stephen Lockhart, D.M., John L. Perez, M.D., Gonzalo Pérez Marc, M.D.,

- 43548 indivizi
- **95%** eficacitate in preventia infectiei SARS-CoV2
- 10 cazuri severe (9 in brat placebo)

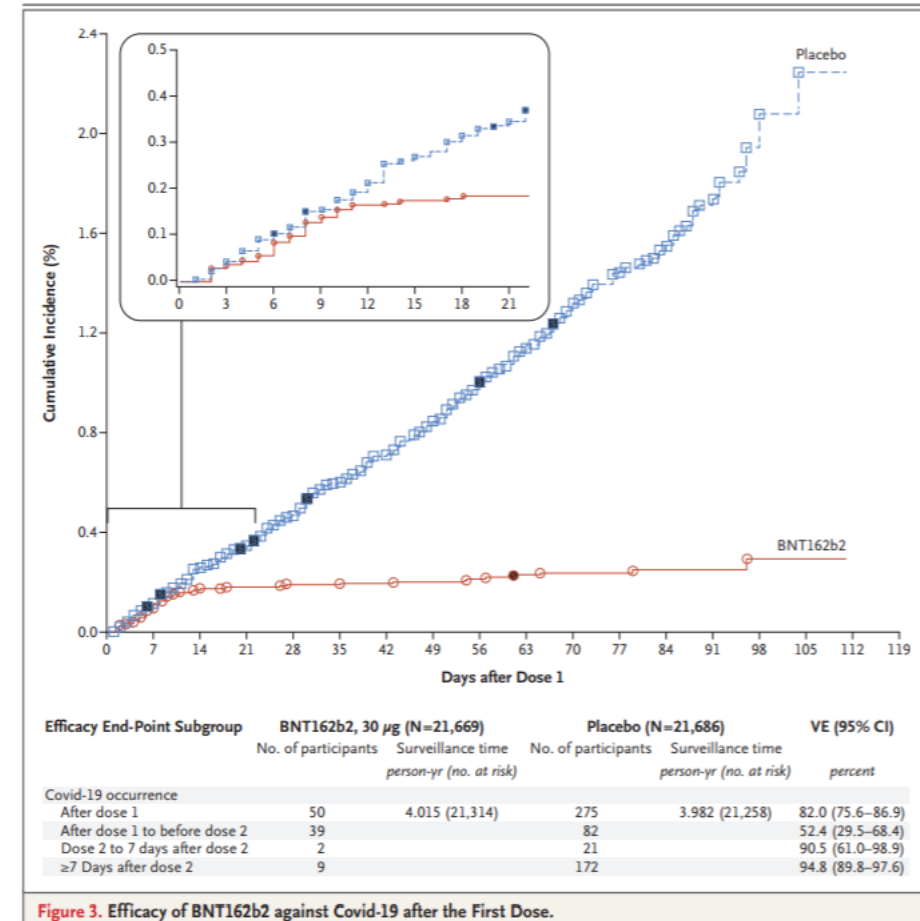
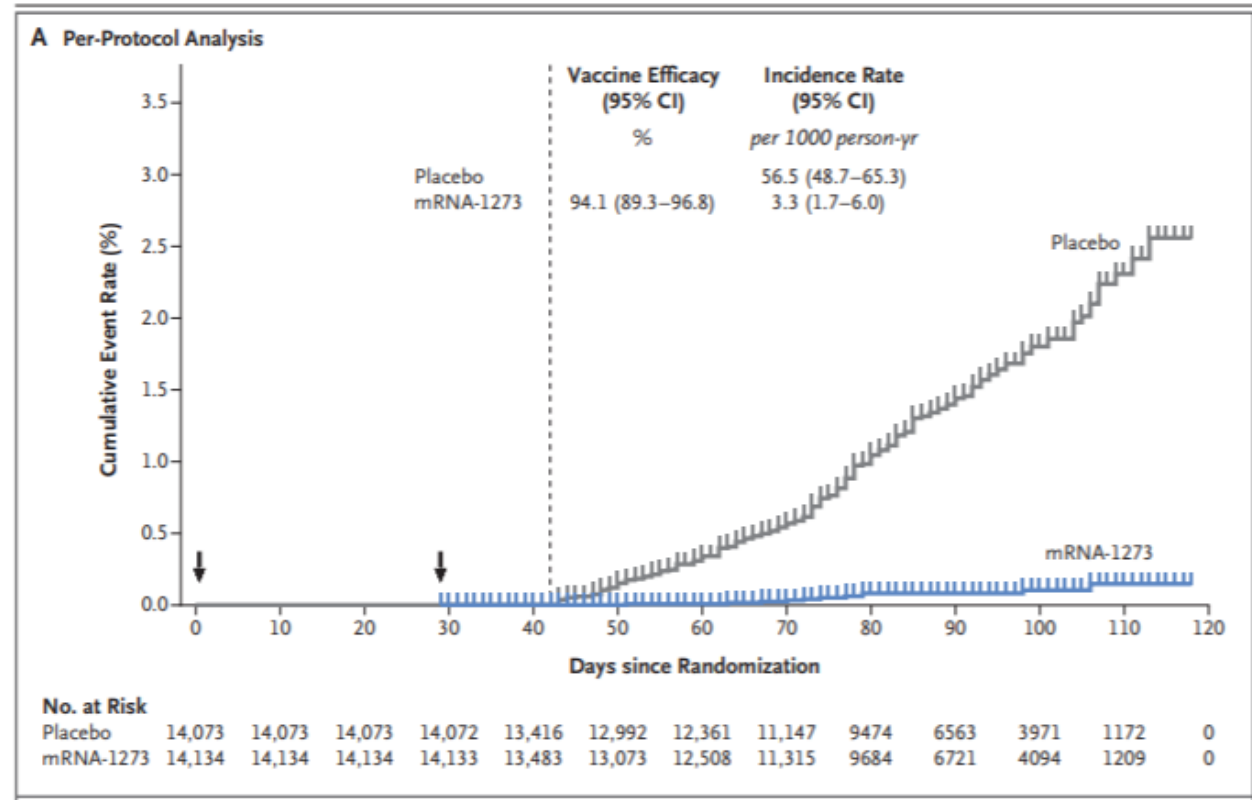


Figure 3. Efficacy of BNT162b2 against Covid-19 after the First Dose.

mRNA-1273 (Vaccin Moderna COVID-19)



- 30.420 indivizi
- **94.1%** eficacitate in preventia infectiei SARS-CoV2
- 30 cazuri severe in bratul placebo
- 1 deces



ChAdOx1 nCoV-19 vaccine (AZD1222)

Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK



Merryn Voysey*, Sue Ann Costa Clemens*, Shabir A Madhi*, Lily Y Weckx*, Pedro M Folegatti*, Parvinder K Aley, Brian Angus, Vicky L Baillie, Shaun L Barnabas, Qasim E Bhorat, Sagida Bibi, Carmen Briner, Paola Cicconi, Andrea M Collins, Rachel Colin-Jones, Clare L Cutland, Thomas C Darton, Keertan Dheda, Christopher J A Duncan, Katherine RW Emary, Katie J Ewer, Lee Fairlie, Saul N Faust, Shuo Feng, Daniela M Ferreira, Adam Finn, Anna L Goodman, Catherine M Green, Christopher A Green, Paul T Heath, Catherine Hill, Helen Hill, Ian Hirsch, Susanne H C Hodgson, Alane Izu, Susan Jackson, Daniel Jenkin, Carina C D Joe, Simon Kerridge, Anthonet Koen, Gaurav Kwatra, Rajeka Lazarus, Alison M Lawrie, Alice Lelliott, Vincenzo Libri, Patrick J Lillie, Raburn Mallory, Ana V A Mendes, Eveline P Milan, Angela M Minassian, Alastair McGregor, Hazel Morrison, Yama F Mujadidi, Anusha Nana, Peter J O'Reilly, Sherman D Padayachee, Ana Pittella, Emma Pledsted, Katrina M Pollock, Maheshi N Ramasamy, Sarah Rhead, Alexandre V Schwarzbald, Nisha Singh, Andrew Smith, Rinn Song, Matthew D Snape, Eduardo Sprinz, Rebecca K Sutherland, Richard Tarrant, Emma C Thomson, M Estée Török, Mark Toshner, David P J Turner, Johan Vekemans, Tonya L Villafana, Marion E E Watson, Christopher J Williams, Alexander D Douglas*, Adrian V S Hill*, Teresa Lambe*, Sarah C Gilbert*, Andrew J Pollard* on behalf of the Oxford COVID Vaccine Trial Group†

- 11636 indivizi analizati
- **62,1%** eficacitate in preventia infectiei SARS-CoV2 la cei care au primit 2 doze standard
- **70,4%** eficacitate la cei care au primit initial 1/2 doza si apoi 1 doza

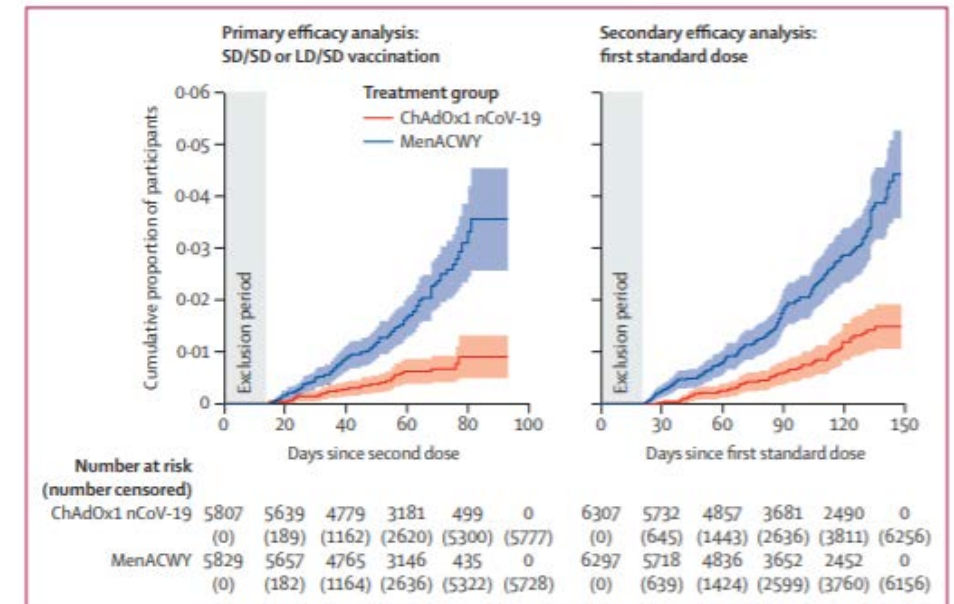


Figure: Kaplan-Meier cumulative incidence of primary symptomatic, NAAT-positive COVID-19. Cumulative incidence of symptomatic COVID-19 after two doses (left) or after first standard dose in participants receiving only standard-dose vaccines (right). Grey shaded areas show the exclusion period after each dose in which cases were excluded from the analysis. Blue and red shaded areas show 95% CIs. LD/SD=low-dose prime plus standard-dose boost. MenACWY=meningococcal group A, C, W, and Y conjugate vaccine. NAAT=nucleic acid amplification test. SD/SD=two standard-dose vaccines given.

Ad26.COVS (Vaccin Janssen/Johnson & Johnson COVID-19)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Interim Results of a Phase 1–2a Trial of Ad26.COVS Covid-19 Vaccine

J. Sadoff, M. Le Gars, G. Shukarev, D. Heerwegh, C. Truyers, A.M. de Groot,
J. Stoop, S. Tete, W. Van Damme, I. Leroux-Roels, P.-J. Berghmans, M. Kimmel,
P. Van Damme, J. de Hoon, W. Smith, K.E. Stephenson, S.C. De Rosa,
K.W. Cohen, M.J. McElrath, E. Cormier, G. Scheper, D.H. Barouch,
I. Hendriks, F. Struyf, M. Douoguih, I. Van Hoof, and H. Schuitemaker

- 43.783 indivizi inrolati in studiu
- **66%** eficacitate in preventia infectiei SARS-CoV2 cu o singura doza
- 89,3% cu 2 doze

- **85%** protectie fata de formele severe
- 5 decese in grup placebo/0 in grup vaccinat

Lizate bacteriene liofilizate

- Indicate la pacientii cu bronsiectazii / fenotip bronsitic de BPOC care fac infectii bacteriene frecvente / colonizari bronsice
 - **Bronhovaxom** – 1cp pe zi, 10 zile pe luna, 3 luni consecutiv (toamna/primavara)
 - **Luivac** – 1cp pe zi 28 zile, pauza 28 zile si apoi 1cp pe zi 28 zile (toamna/primavara)
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Concluzii

- Pacientii cu boli respiratorii cronice au indicatie de vaccinare:
 - Antigripala sezoniera
 - Antipneumococica
 - Anti-SARS-Cov2

 - Indicatie de adm. de lizate bacteriene – cazuri particulare
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