



Meeting Agenda

**Meeting Agenda | Finance, Administration, Audit and Compliance Committee |
Health Care Policy Committee | Retirement Policy Committee | Board of Directors**

**Wednesday, March 2, 2022 | 202 Arbor Lake Drive., Columbia, SC 29223 | 1st Floor Conference Room
Via teleconference: 888 475 4499 Meeting ID 646 749 5163 ##**

Finance, Administration, Audit and Compliance Committee |9:30 a.m.

- I. Call to Order
- II. Approval of Meeting Minutes- November 30, 2021
- III. Internal Audit Reports
 - i. Internal Audit Report 2021-4 Retirement Service Purchase Installment Accounts
 - ii. Internal Audit Report 2021-5 Mailroom Services and Postage
 - iii. Internal Audit Plan for 2022
- IV. Governance Documents Review and Approval
 - i. PEBA Board Bylaws
 - ii. PEBA Board Powers Reserved Resolution
 - iii. PEBA Board Ethics and Conflict of Interest Policy
 - iv. PEBA Board Continuing Education Policy
 - v. PEBA Board Conference Event Attendance Policy
 - vi. PEBA Board Travel Policy
 - vii. Emergency Succession Plan
- V. Old Business/Director's Report
- VI. Adjournment

Health Care Policy Committee |10:30 a.m.

- I. Call to Order
- II. Approval of Meeting Minutes - November 30, 2021
- III. Election of Committee Vice-Chairman
- IV. Benchmark Review
- V. COVID Update
- VI. An Overview of Long COVID and Potential Impacts
- VII. Old Business/Director's Report
- VIII. Adjournment

LUNCH

Notice of public meeting

This notice is given to meet the requirements of the S.C. Freedom of Information Act and the Americans with Disabilities Act. Furthermore, this facility is accessible to individuals with disabilities, and special accommodations will be provided if requested in advance.

Retirement Policy Committee | 1:00 p.m.

- I. Call to Order
- II. Approval of Meeting Minutes – November 30, 2021
- III. Defined Contribution Plans Quarterly Investment Performance Report
 - i. Deferred Compensation Program
 - ii. State ORP
- IV. Deferred Compensation Program Quarterly Plan Summary
- V. Old Business/Director's Report
- VI. Adjournment

Board of Directors | 3:00 p.m.

- I. Call to Order
- II. Approval of Meeting Minutes- November 30, 2021
- III. PEBA Board ByLaws Review and Approval
- IV. Election of PEBA Board Chairman and Vice-Chairman
- V. Recognition to the PEBA Board
 - i. John Sowards
- VI. Committee Reports
 - i. Finance, Administration, Audit and Compliance Committee
 - ii. Health Care Policy Committee
 - iii. Retirement Policy Committee
- VII. Old Business
 - i. Director's Report
 - ii. RoundTable Discussion
- VIII. Adjournment

PUBLIC EMPLOYEE BENEFIT AUTHORITY AGENDA ITEM
Health Care Policy Committee

Meeting Date: March 2, 2022

1. Subject: Election of HCP Committee Vice-Chairman

2. Summary: Chairman Shissias will seek a nomination for a Committee member to serve as the Health Care Policy Committee Vice-Chairman for the remainder of the current term.

3. What is the Committee asked to do? Elect a Health Care Policy Committee Vice-Chairman

4. Supporting Documents:

PUBLIC EMPLOYEE BENEFIT AUTHORITY AGENDA ITEM
Health Care Policy Committee

Meeting Date: March 2, 2022

1. Subject: State Health Plan Benchmarks

2. Summary: Rob Tester will review the latest iteration of the State Health Plan's annual comparison with national and regional benchmarks.

3. What is Committee asked to do? Receive as information

4. Supporting Documents:

- (a) Attached: 1. SHP Benchmarks March 2022
2. SHP Benchmarks Appendix March 2022



PEBASM
SC Retirement Systems
and State Health Plan

Serving those who serve South Carolina

State Health Plan benchmarks

Health Care Policy Committee

March 2, 2022

State Health Plan enrollment as of March 2022

Participants		
Subscribers		292,507
Actives	196,822	
Retirees	92,332	
Others	3,353	
Spouses		87,469
Children		138,458
Total covered lives		518,434

Total employer groups: 816

Active subscribers	
State agencies	32,748
Higher education	25,500
School districts	86,084
Local subdivisions	36,835
Charter schools	3,198
Other	12,457
Total employees	196,822

Retirees	
Medicare	74,632
Non-Medicare	17,700
Total retirees	92,332
Funded retirees	85,943

Numbers represent enrollment in the State Health Plan, the MUSC Health Plan and TRICARE Supplement Plan.

State Health Plan versus national trends

Target is to maintain net expenditure growth at least two points below benchmark.

	Benchmark	State Health Plan
2017	6.5%	2.5%
2018	7.1%	3.2%
2019	6.7%	2.5%
2020	5.2%	3.8%
2021	7.2%	7.6% ¹
5-year average (2017-2021)	6.5%	3.9%

¹Incurred in 12 months; paid in 13 months.

The benchmark is a blended number derived from annual health care cost trend surveys produced by national consulting firms including Aon, Buck, PriceWaterhouseCoopers, Segal and Willis Towers Watson, when available.

State Health Plan contribution rate increases versus CPI growth for medical care

Target is to control annual contribution increase to no more than CPI for medical care plus 3 percentage points. Two-year lag in CPI data used for measure because of timing of the State Health Plan rate setting process.

	State Health Plan total rate increase		Medical care CPI increase
2018	2.5%	2016	4.1%
2019	5.7%	2017	1.8%
2020	0.0%	2018	2.0%
2021	0.0%	2019	4.6%
2022	0.6%	2020	1.8%
5-year average (2018-2022)	1.8%	5-year average (2016-2020)	2.9%

2021 Average monthly total premiums¹

	Single	Family
State Health Plan	\$500	\$1,305
Large public and private sector employers ²	\$673	\$1,944
Public and private sector in South ³	\$639	\$1,823
Public employers	\$666	\$1,784
Private – manufacturing	\$664	\$1,983
Private – financial services	\$681	\$1,937

¹Average monthly total premiums in PPO (Preferred Provider Organization) plans

²Large public and private sector employers: ≥ 200 employees in public and private sectors

³Public and private sector employers in South includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the Kaiser Family Foundation Employer Health Benefits 2021 Annual Survey

2021 Average annual deductible¹

	Amount
State Health Plan	\$490
Large public and private sector employers ²	\$976
All employers	\$1,245

¹Average annual deductible in PPO (Preferred Provider Organization) plans

²Large public and private sector employers: ≥ 200 employees in public and private sectors

Data from the *Kaiser Family Foundation Employer Health Benefits 2021 Annual Survey*

2020 Average annual gross plan cost per active employee¹

	Amount ²
State Health Plan	\$11,669
Public employers	\$14,000
Private – manufacturing	\$14,431
Private – financial services	\$14,635
All employers	\$13,937
Employers – 500+	\$14,048
Employers – 20k+	\$13,189
South ³	\$13,024

¹Average cost in PPO (Preferred Provider Organization) and POS (Point of Service) plans

²Average annual gross plan cost per employee (medical and pharmacy only for active employees and their dependents) = (Claims cost for employee and dependents + administrative costs + employee contributions)/number of active employees

³South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the 2020 Mercer National Survey of Employer-Sponsored Health Plans

2022 Composite monthly premiums¹

	Employer	Employee	Total
State Health Plan	\$578.73	\$159.84	\$738.57
South ²	\$804.35	\$199.74	\$1,004.08
United States	\$953.30	\$173.15	\$1,126.45
State Health Plan percentage of regional average	72.0%	80.0%	73.6%
State Health Plan percentage of national average	60.7%	92.3%	65%

Survey uses most prevalent plan among state employee options for analysis.

¹Composite monthly premiums: Weighted average of all PEBA health subscribers enrolled in each coverage level

²South includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the 2022 *PEBA 50-State Survey of State Employee Health Plans*

Disclaimer

This presentation does not constitute a comprehensive or binding representation of the employee benefit programs PEBA administers. The terms and conditions of the employee benefit programs PEBA administers are set out in the applicable statutes and plan documents and are subject to change. Benefits administrators and others chosen by your employer to assist you with your participation in these employee benefit programs are not agents or employees of PEBA and are not authorized to bind PEBA or make representations on behalf of PEBA. Please contact PEBA for the most current information. The language used in this presentation does not create any contractual rights or entitlements for any person.



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Appendix: State Health Plan benchmarks

Health Care Policy Committee

March 2, 2022

2021 Average monthly contribution by employees

	Single	Family
State Health Plan	\$98	\$307
Large public and private sector employers ¹	\$121	\$484
Public and private sector in South ²	\$108	\$571

¹Large public and private sector employers: ≥ 200 employees in public and private sectors

²Public and private sector employers in South includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the Kaiser Family Foundation Employer Health Benefits 2021 Annual Survey

2021 Average percentage of contribution by employer

	EE contribution	Total premium	ER contribution
State Health Plan			
Single	\$98	\$500	80.5%
Family	\$307	\$1,305	76.5%
Large public and private sector employers¹			
Single	\$121	\$673	82.0%
Family	\$484	\$1,944	75.1%
Public and private sector employers in South²			
Single	\$108	\$639	83.1%
Family	\$571	\$1,823	68.7%

¹Large public and private sector employers: ≥ 200 employees in public and private sectors

²Public and private sector employers in South includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the *Kaiser Family Foundation Employer Health Benefits 2021 Annual Survey*

2021 Average Rx copayment

	Amount
State Health Plan	\$9/\$42/\$70
Public and private sectors ¹	\$12/\$36/\$66

¹Public and private sectors includes small and large firms with Health Maintenance Organizations, Preferred Provider Organizations

Data from the Kaiser Family Foundation Employer Health Benefits 2021 Annual Survey

2020 Median individual in-network deductible amount¹

	Amount
State Health Plan	\$490
Public employers	\$600
Private – manufacturing	\$750
Private – financial services	\$750
All employers ²	\$1,000
Employers – 500+	\$750
Employers – 20k+	\$750
Public and private sector employers in South ³	\$750

¹Median deductible amount in PPO (Preferred Provider Organization) and POS (Point of Service) plans

²Public and private employers in South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the 2020 Mercer National Survey of Employer-Sponsored Health Plans

2020 Median individual in-network coinsurance maximum amount¹

	Amount
State Health Plan	\$2,800
Public employers	\$3,000
Private – manufacturing	\$3,000
Private – financial services	\$3,000
All employers	\$4,000
Employers – 500+	\$3,000
Employers – 20k+	\$3,500
Public and private sector employers in South ²	\$3,500

¹Median coinsurance maximum amount in PPO (Preferred Provider Organization) and POS (Point of Service) plans

²Public and private employers in South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the 2020 Mercer National Survey of Employer-Sponsored Health Plans

2020 Median prescription drug retail 3-tier copayment amounts

	Amount
State Health Plan	\$9/\$42/\$70
Public employers	\$10/\$30/\$50
Private – manufacturing	\$10/\$30/\$50
Private – financial services	\$10/\$30/\$60
All employers	\$10/\$35/\$60
Employers – 500+	\$10/\$30/\$55
Employers – 20k+	\$10/\$30/\$55
Public and private sector employers in South ¹	\$10/\$35/\$60

¹Public and private employers in South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Data from the 2020 Mercer National Survey of Employer-Sponsored Health Plans

2022 State Health Plan member benefits, contributions compared to other State Health Plans in the Southeast

	Lower	Higher
Deductible	7	6
Coinsurance max	10	3
Generic copay	10	3
Brand copay	6	7
Employer contribution	11	2
Employee contribution	10	3
Total contribution	12	1

Data from the 2022 PEBA 50-State Survey of State Employee Health Plans

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PUBLIC EMPLOYEE BENEFIT AUTHORITY AGENDA ITEM
Health Care Policy Committee

Meeting Date: March 2, 2022

1. Subject: COVID Update

2. Summary: There is much curiosity as to the future path of COVID. Dr. Tripp Jennings of BlueCross will present on COVID numbers to date and directional trends, as well as review informed speculation as to what will happen next.

3. What is Committee asked to do? Receive as information

4. Supporting Documents:

(a) Attached:



South Carolina

COVID-19

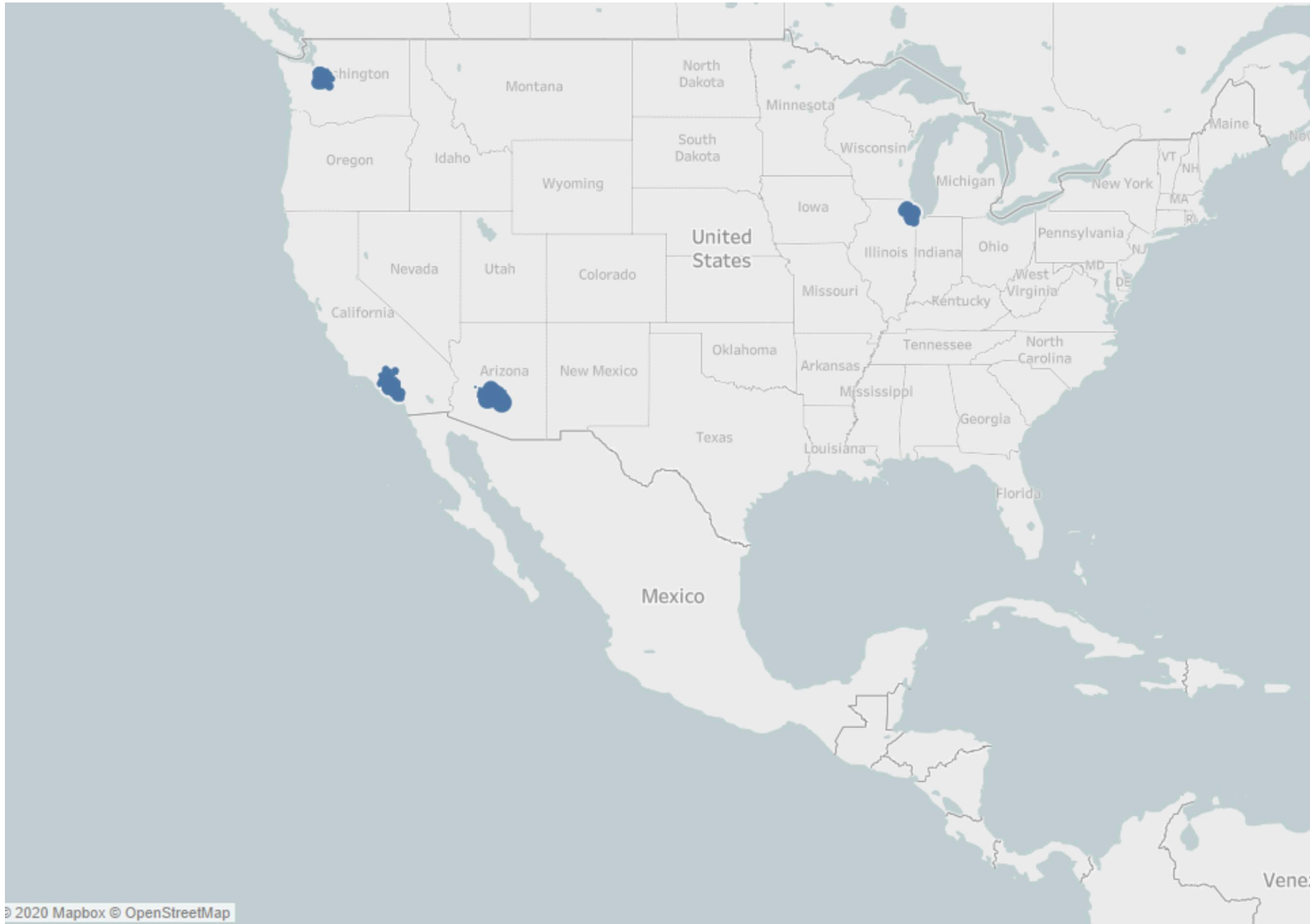
Where have we been?
Where are we now?
Where are we going?

*Tripp Jennings, MD FACEP
VP, Clinical Innovation*



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and State Health Plan

Where have we been?



3.2021

Total confirmed cases

112,646,459

that's **1.445%** of humanity

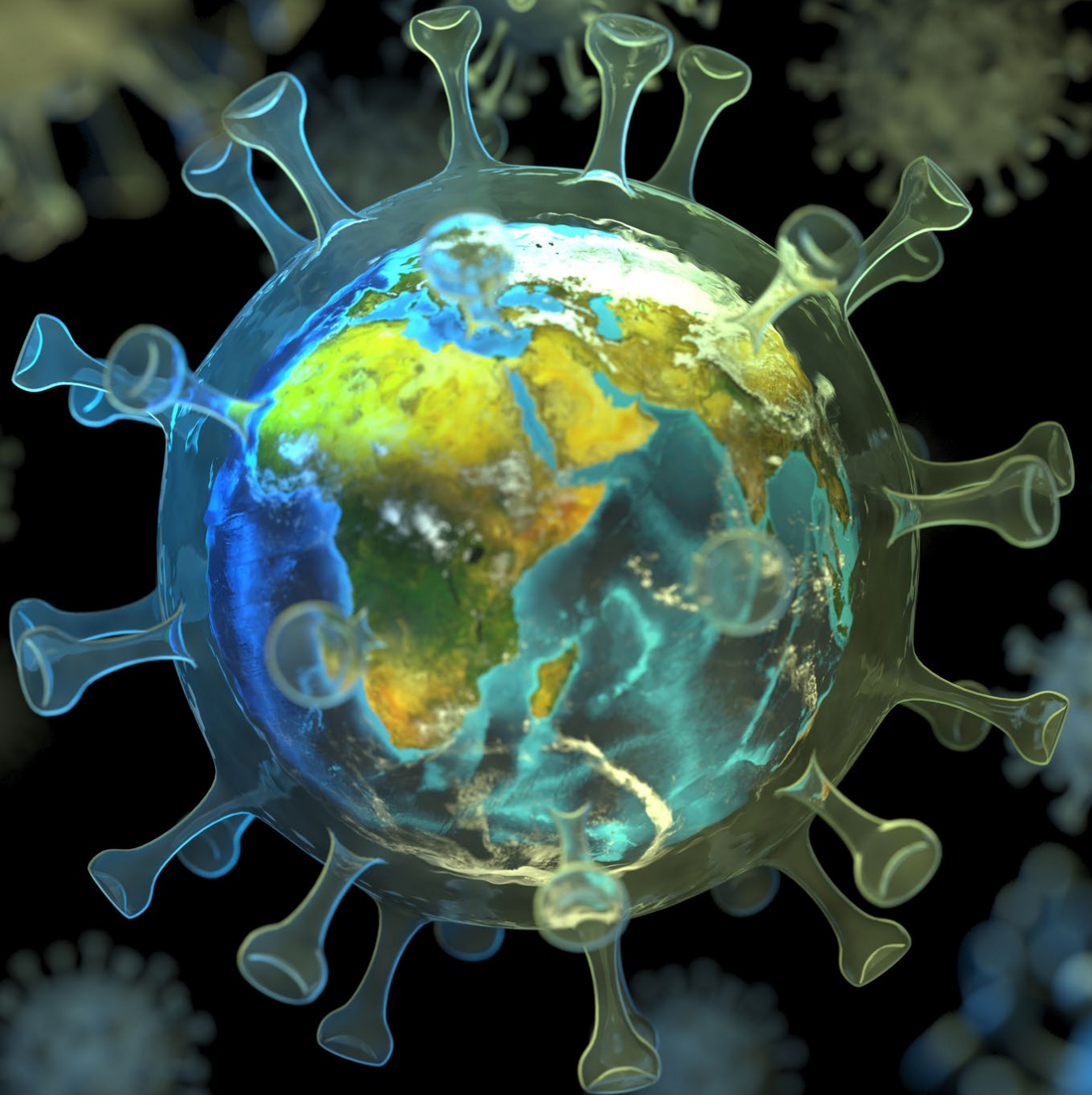
or one in **69** humans

Deaths

2,496,485

that's **0.032%** of humanity

or one in **3,122** humans



3.2022

Total confirmed cases

435,939,586

that's **5.593%** of humanity

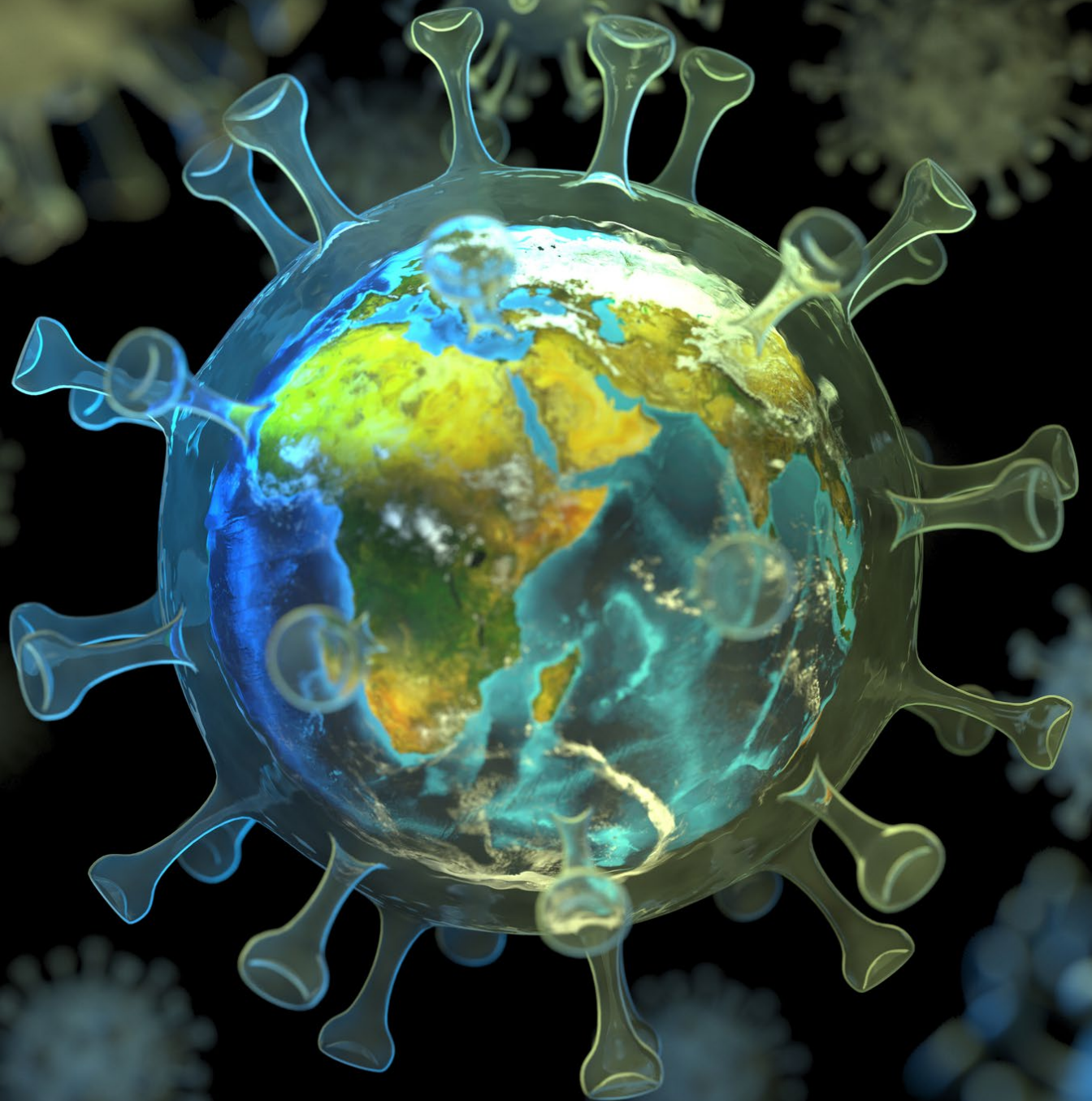
or one in **17** humans

Deaths

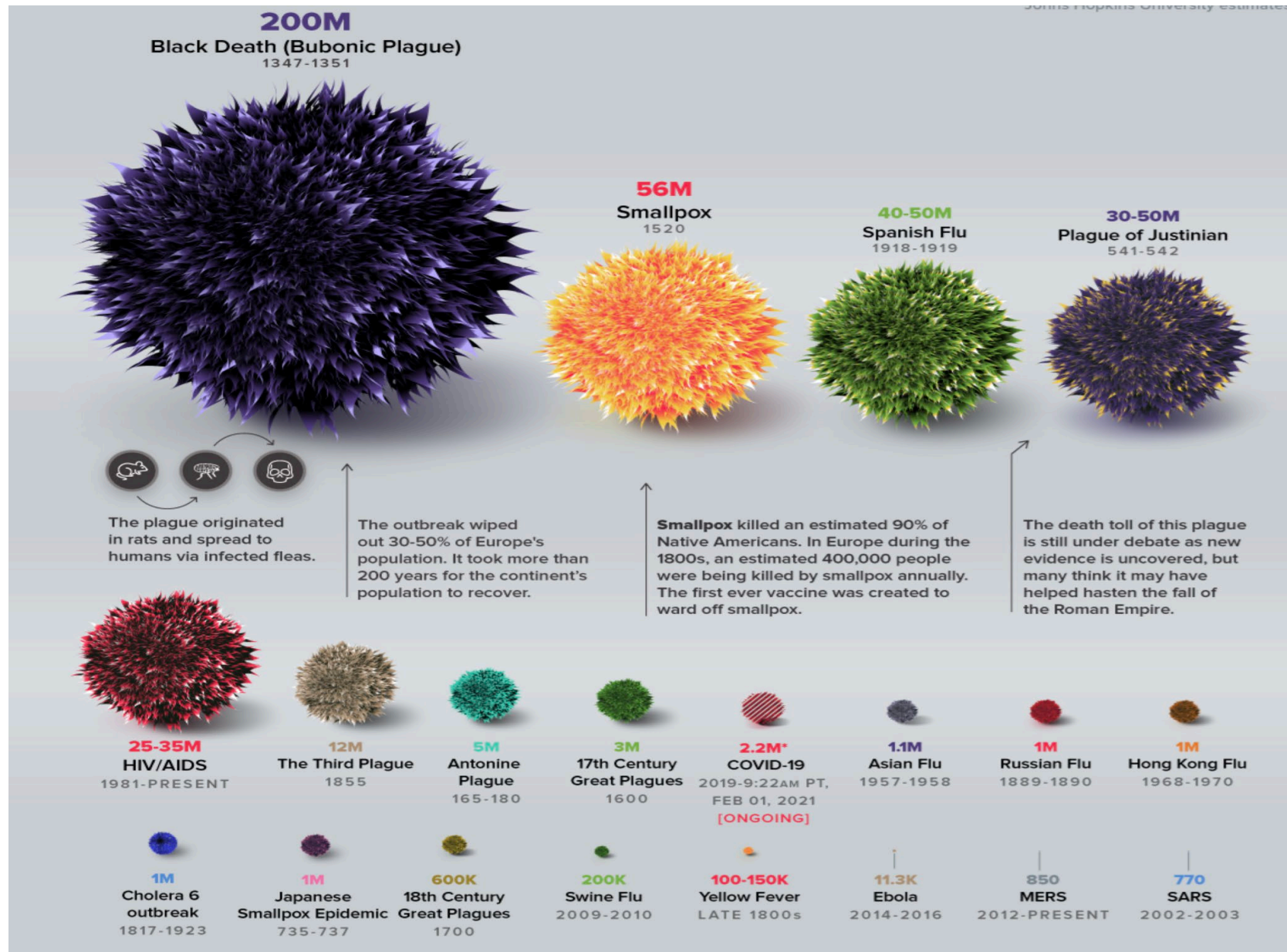
5,951,011

that's **0.076%** of humanity

or one in **1,309** humans

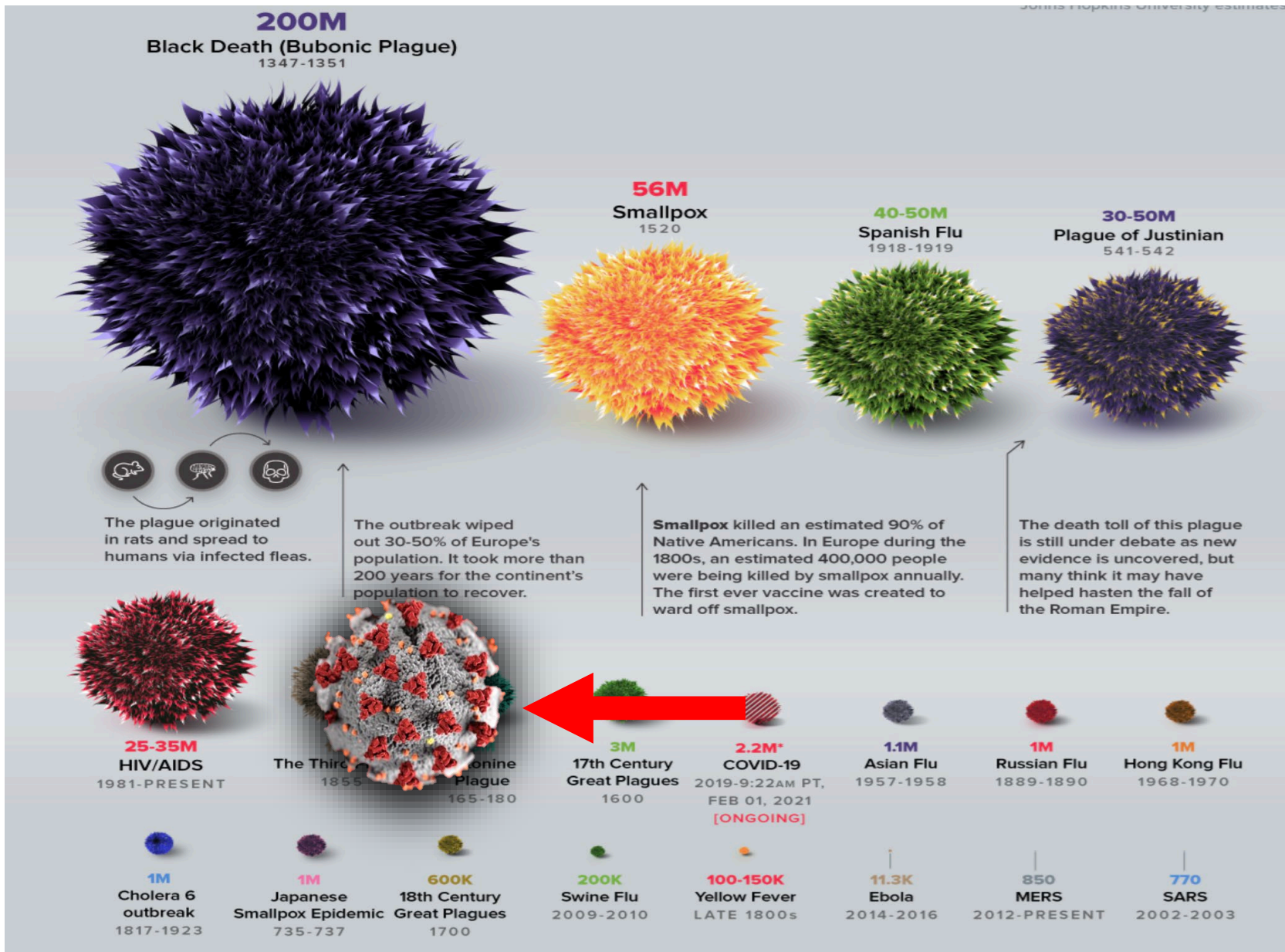


Perspective The History of Pandemics: *Deaths*



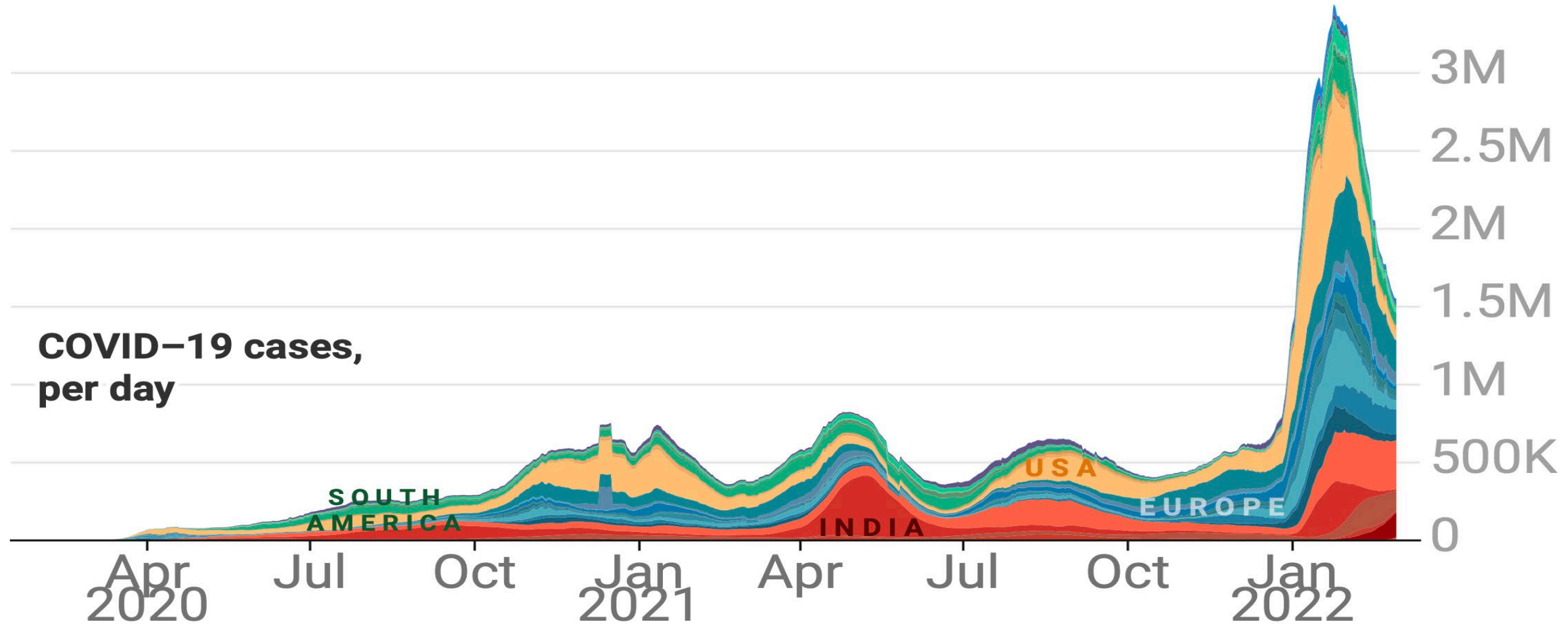
1/1/2021
2.2M
deaths

Perspective The History of Pandemics: *Deaths*



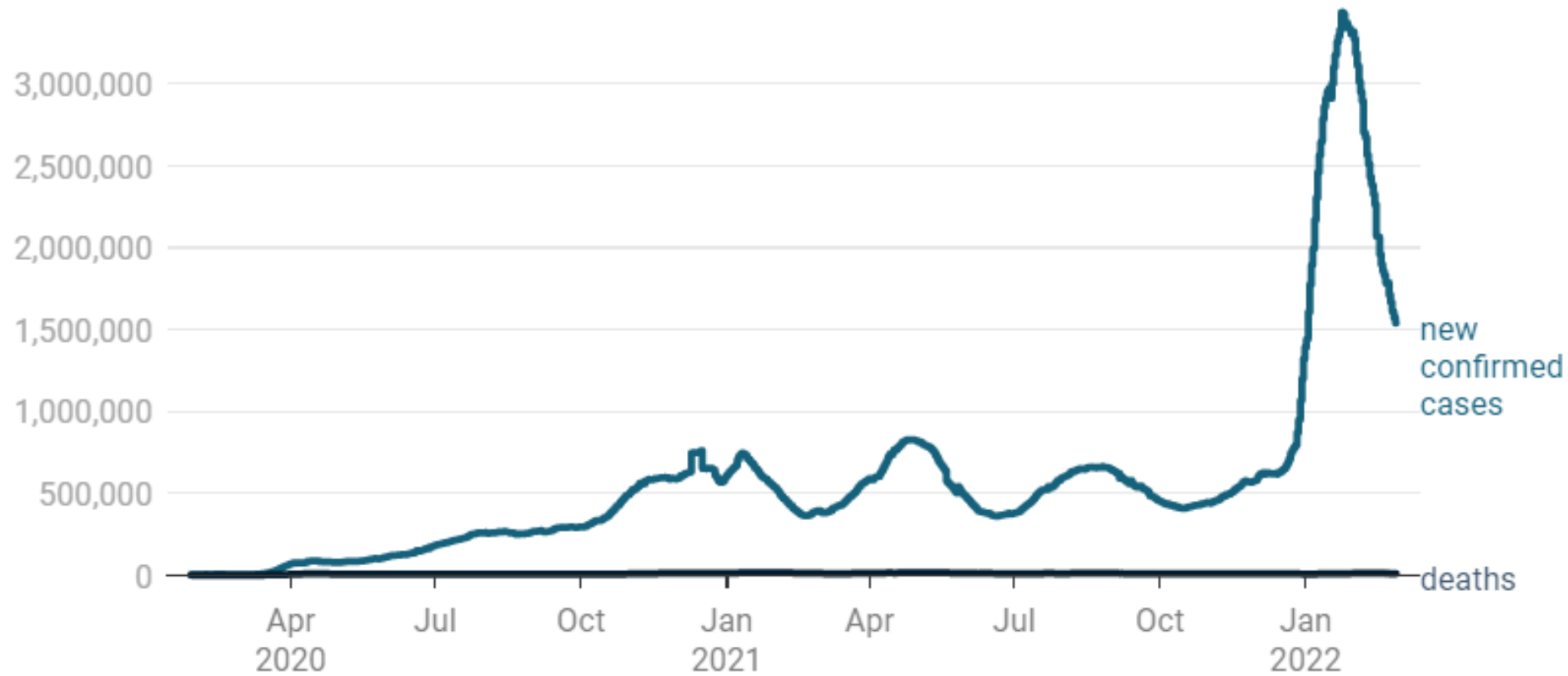
3/2/2022
5.9M
deaths

Worldwide



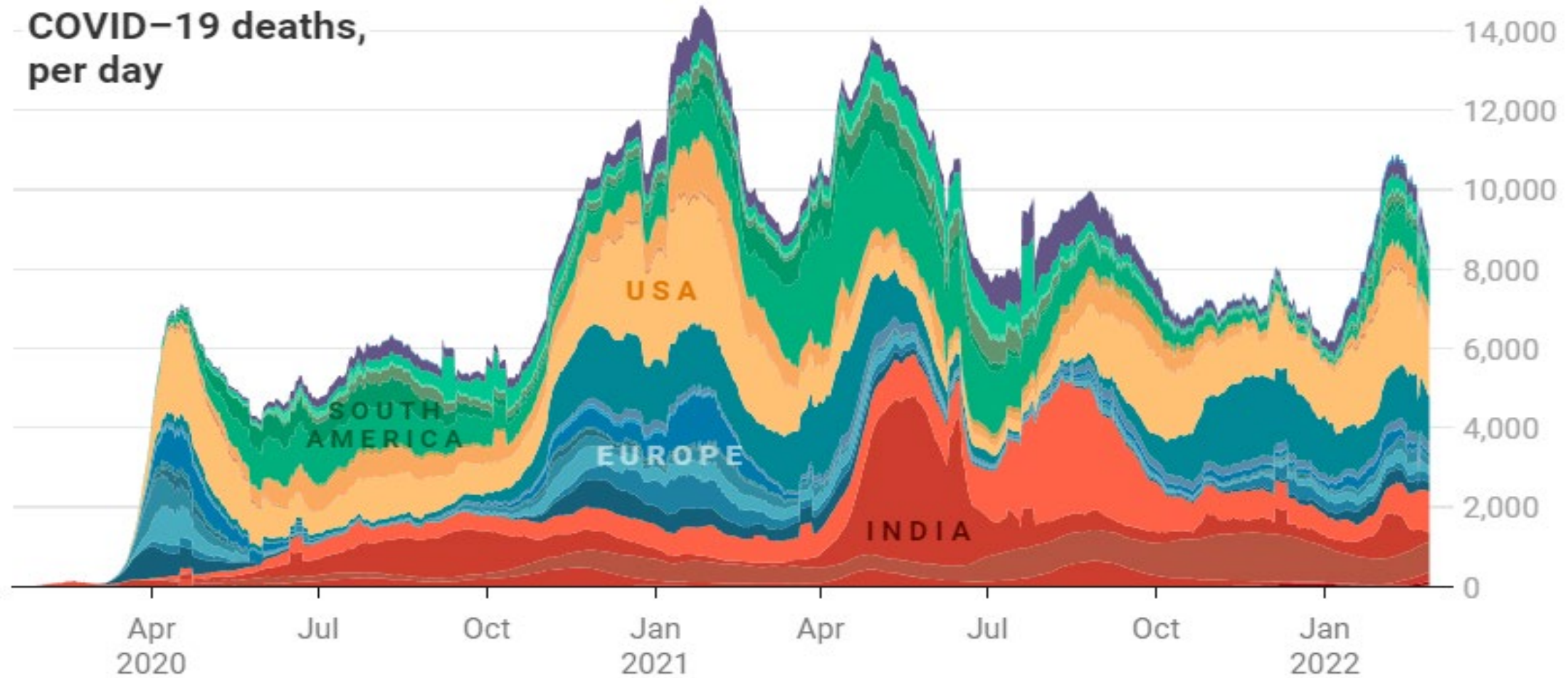
Worldwide

Confirmed COVID-19 cases worldwide, per day



Worldwide

COVID-19 deaths,
per day



Comparison of reported COVID-19 cases in the last seven days vs in the seven days before that, in countries that reported at least ten cases in total.

▲ ▲ **More than twice as many cases this week as last week**

Chad • Congo (Brazzaville) • Congo (Kinshasa) • Hong Kong • Lesotho • New Zealand • South Sudan • Sudan

▲ **More cases this week as last week**

Australia • Brunei • Myanmar • Burundi • Cabo Verde • Cambodia • China • Ghana • Guinea • Guinea-Bissau • Iceland • Ireland • South Korea • Luxembourg • Malaysia • Nigeria • Rwanda • Sao Tome and Principe • Singapore • Thailand • Tonga • Trinidad and Tobago • Vanuatu • Vietnam • Zimbabwe


~ **The same number of cases this week as last week**

Kenya • Monaco • Nicaragua

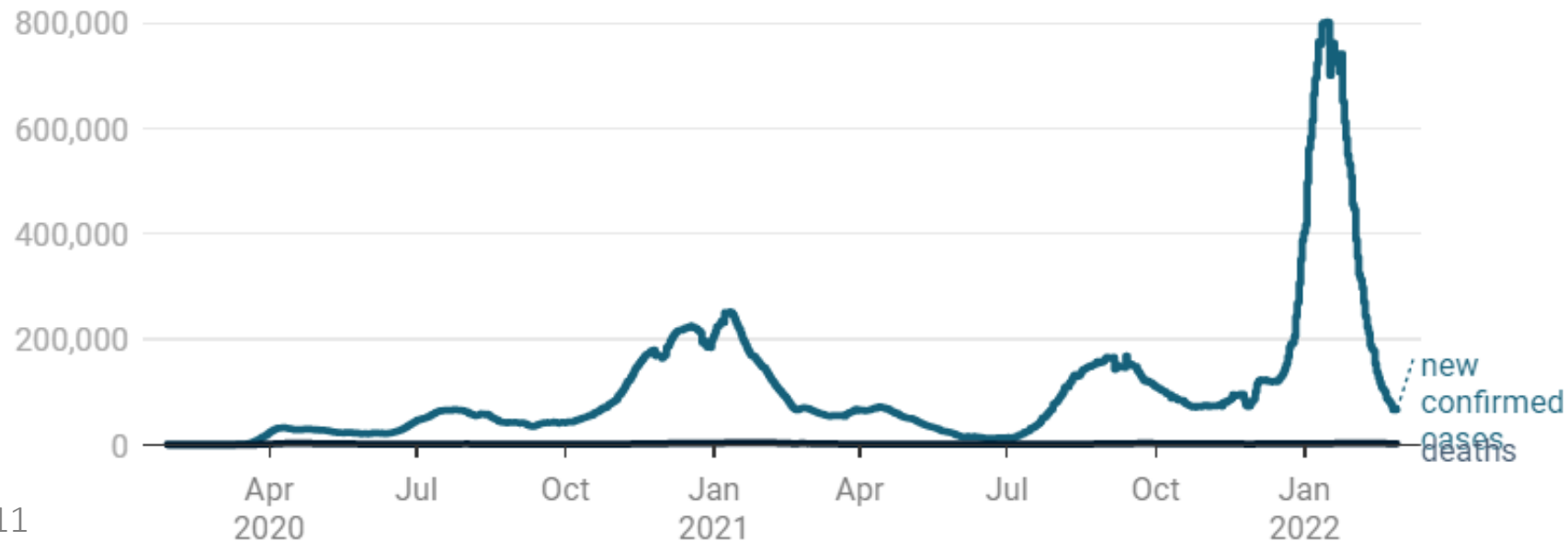
▼ **Fewer cases this week as last week**

Afghanistan • Albania • Andorra • Angola • Argentina • Austria • Bahamas • Bahrain • Barbados • Belarus • Belgium • Belize • Bhutan • Bolivia • Bosnia and Herzegovina • Botswana • Brazil • Bulgaria • Canada • Chile • Colombia • Comoros • Costa Rica • Croatia • Cuba • Cyprus • Czechia • Denmark • Djibouti • Dominica • Dominican Republic • Ecuador • Egypt • Equatorial Guinea • Eritrea • Estonia • Eswatini • Fiji • Finland • France • Gabon • Georgia • Germany • Greece • Grenada • Guatemala • Honduras • Hungary • Indonesia • Iran • Iraq • Israel • Italy • Jamaica • Japan • Jordan • Kuwait • Kyrgyzstan • Laos • Latvia • Lebanon • Libya • Liechtenstein • Lithuania • Malawi • Maldives • Mali • Malta • Mauritania • Mexico • Moldova • Mongolia • Montenegro • Morocco • Mozambique • Namibia • Nepal • North Macedonia • Norway • Oman • Pakistan • Palau • Panama • Papua New Guinea • Paraguay • Philippines • Poland • Portugal • Qatar • Romania • Russia • San Marino • Senegal • Serbia • Seychelles • Slovakia • Solomon Islands • Somalia • South Africa • Spain • Sri Lanka • Suriname • Sweden • Switzerland • Syria • Taiwan • Tanzania • Togo • Tunisia • Turkey • Uganda • United Arab Emirates • United Kingdom • Uruguay • **United States** • Uzbekistan • Venezuela • Yemen • Zambia

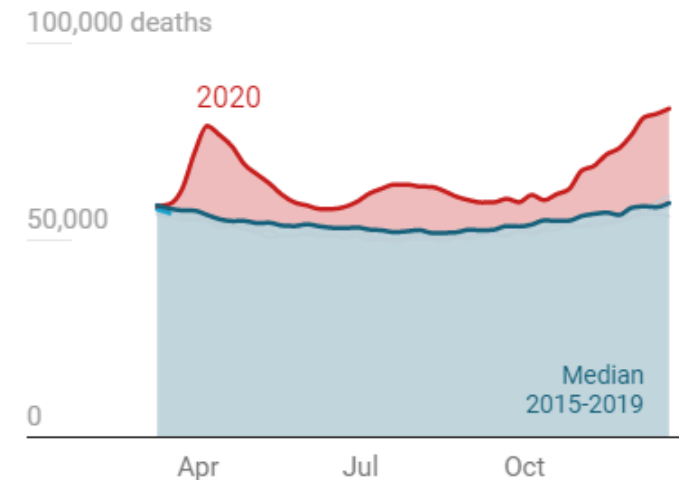
National Impact

Country	Total confirmed cases ▼	that's like ... out of a million inhabitants	or one in ... inhabitants	Deaths
 United States	78,972,996	238,587	4	947,804

Confirmed COVID-19 cases in the United States, per day



Weekly mortality in the us **United States**



South Carolina

United States COVID-19 Tracker

January 21, 2020 - February 28, 2022



Global

United States

Cumulative or New

New

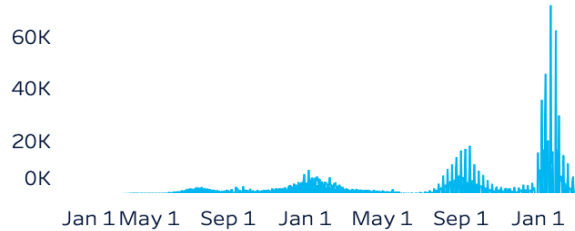
Positive Cases or Deaths

Positive Cases

New Positive Cases

2,085

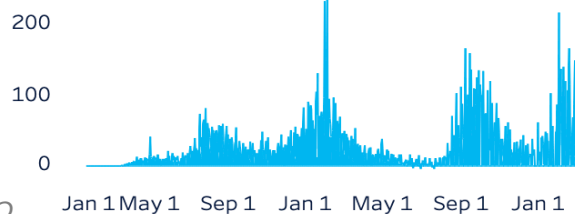
▲ vs previous day
0



New Deaths

75

▲ vs previous day
0

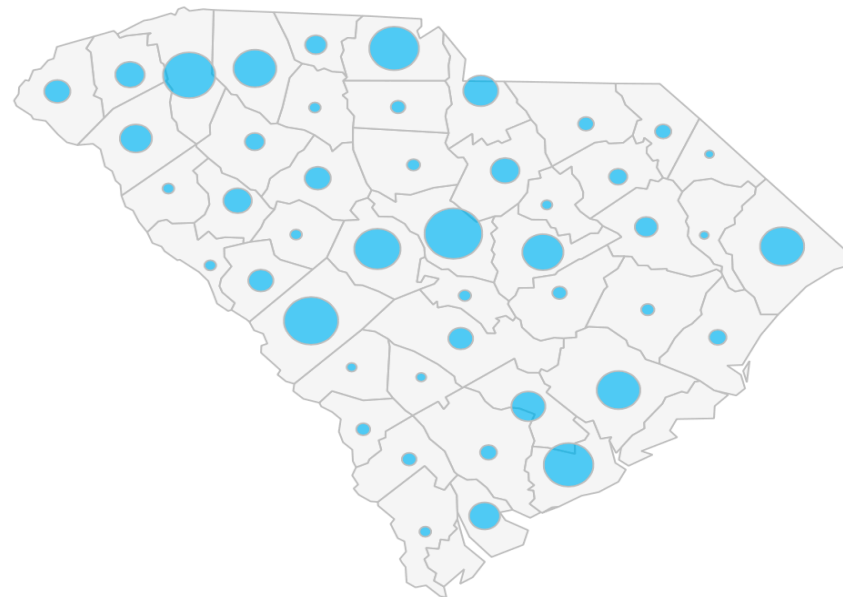


New Positive Cases by County

Select a County to see more details

State

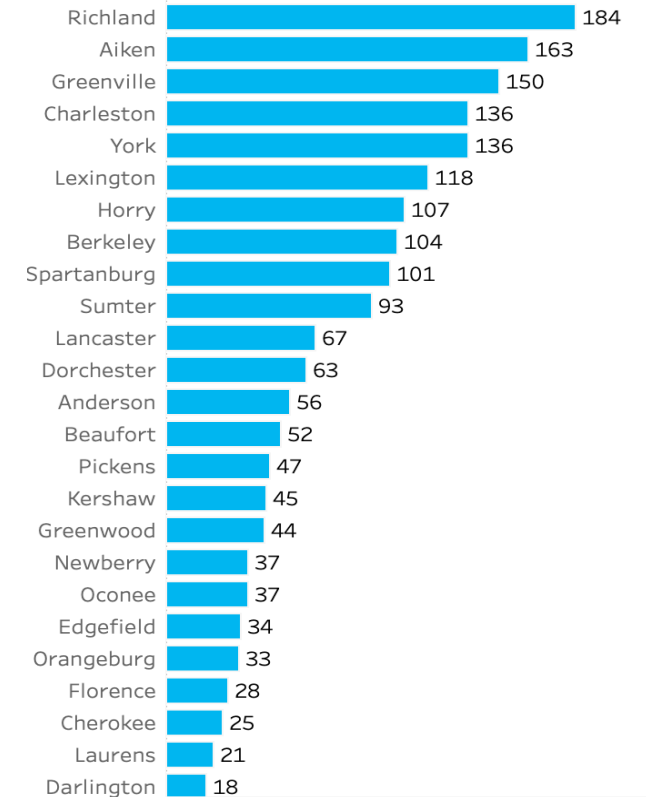
South Carolina



© 2022 Mapbox © OpenStreetMap

New Positive Cases by County

Select a Country to see more details



South Carolina

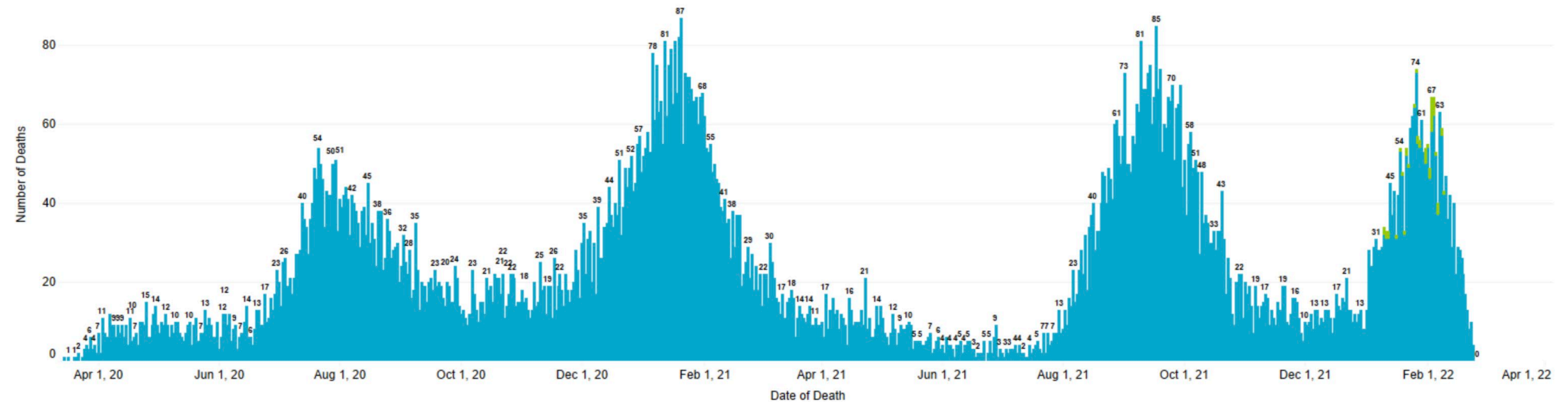
COVID-19 Deaths in South Carolina, by Date of Death *As of 11:59 PM on 2/27/2022*

This graph displays the number of COVID-19 deaths by date of death. The 48 newly reported deaths on 2/27/2022, displayed in green, are visualized by their date of death.

Blue indicates previously reported deaths that occurred by date.

Newly Reported Deaths:

(2) 2022-01-10 (2) 2022-01-11 (2) 2022-01-12 (1) 2022-01-16 (1) 2022-01-18 (1) 2022-01-19 (1) 2022-01-20 (2) 2022-01-21 (1) 2022-01-22 (1) 2022-01-25 (1) 2022-01-26 (2) 2022-01-27 (2) 2022-01-28 (4) 2022-01-31 (1) 2022-02-01 (3) 2022-02-02 (9) 2022-02-03 (5) 2022-02-04 (1) 2022-02-05 (3) 2022-02-06 (2) 2022-02-08 (1) 2022-02-09



South Carolina

ICU Hospitalizations Due to COVID-19

Previous Day
Percent of
COVID-19
Patients

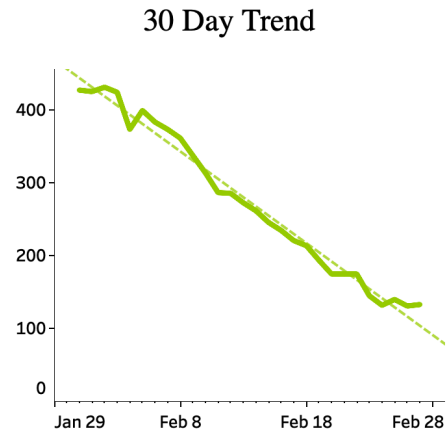
21.6%

Average Last
30 Days

285.4

Previous Day

132



Hospitalizations Due to COVID-19

Previous Day
Percent of
Inpatient

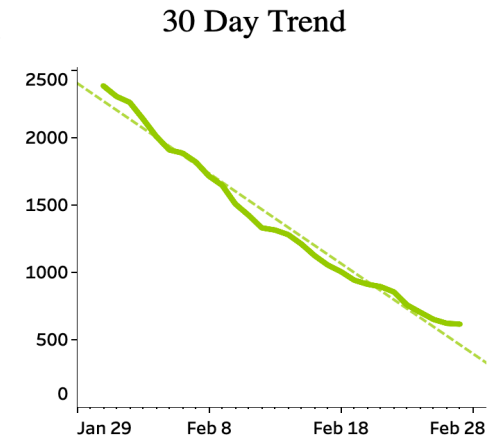
8.2%

Average Last
30 Days

1,432

Previous Day

610.0



COVID-19 Patients on Ventilators

Latest Percent
of COVID-19
Patients

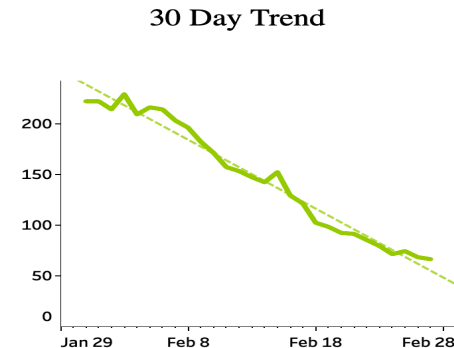
10.8%

Average Last 30
Days

152.7

Previous Day

66



Note : *Data are provisional; Hospitalization, ICU, and Ventilation data are based on the report date.

A Tale of Two Pandemics



A Tale of Two Pandemics

COVID-19

- 2019-present
- 436 million infected
- 6 million deaths
- 950,000 American deaths
- Delta and Omicron (thus far)
- Origin China
- Elderly and Pre-existing health conditions

Spanish Influenza

- 1918-1921
- 500 million affected
- 50 million deaths
- Roughly 675,000 American deaths
- One severe mutation
- Unknown origin - It did not originate in Spain – they were just the first to recognize it
- More soldiers died from Flu than WWI
- Young and healthy deaths higher
- Now seasonal (Not eradicated)

Similarities?

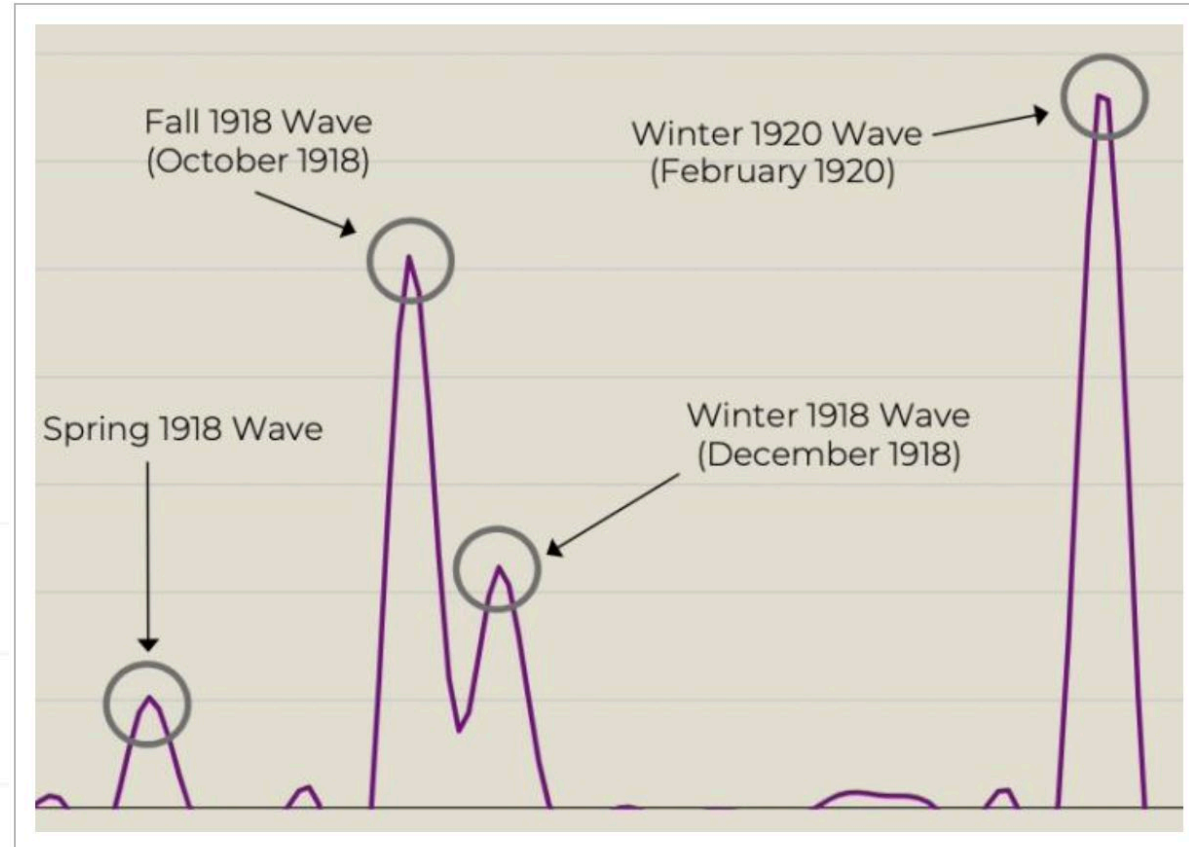
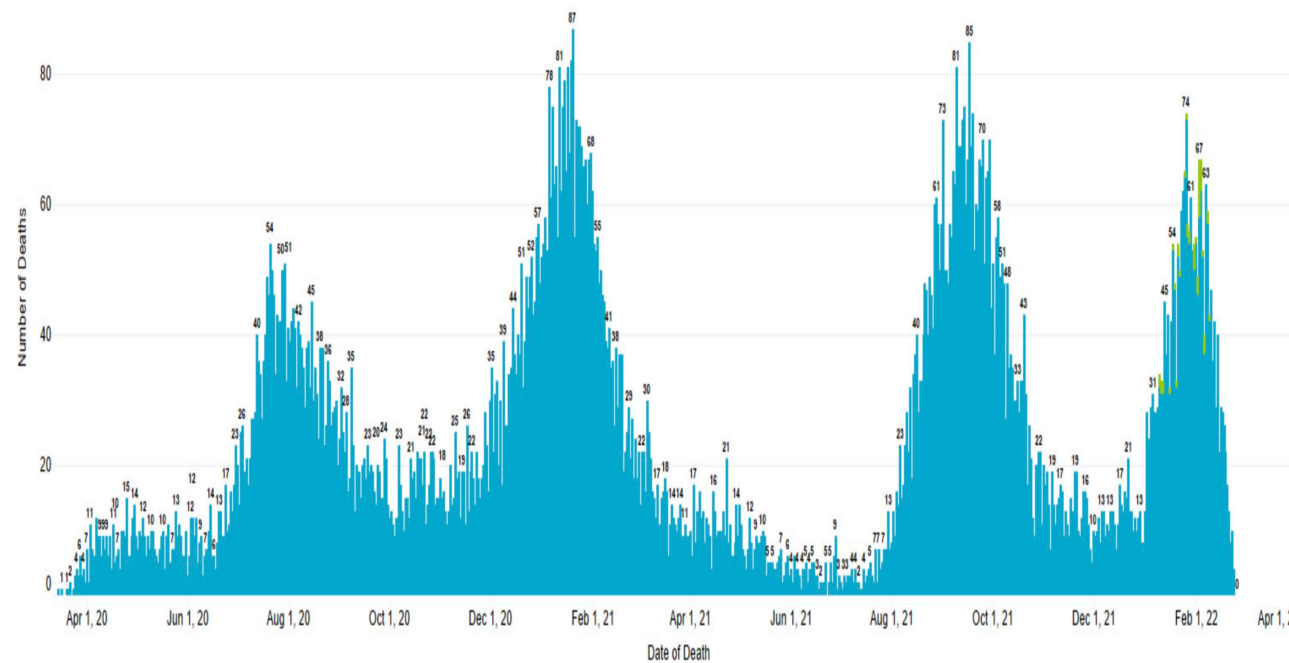
COVID-19 Deaths in South Carolina, by Date of Death As of 11:59 PM on 2/27/2022

This graph displays the number of COVID-19 deaths by date of death. The 48 newly reported deaths on 2/27/2022, displayed in green, are visualized by their date of death.

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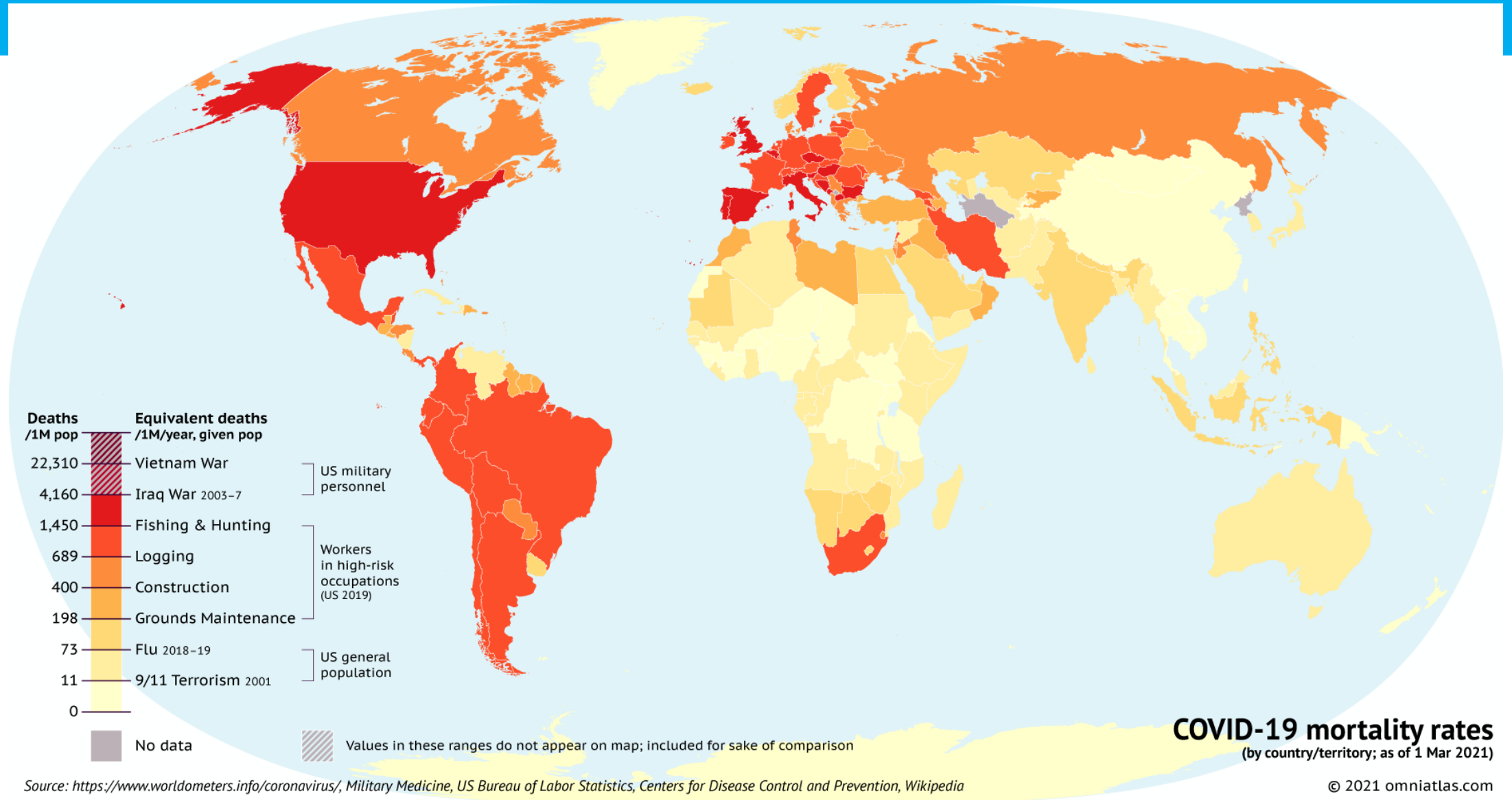
Newly Reported Deaths:

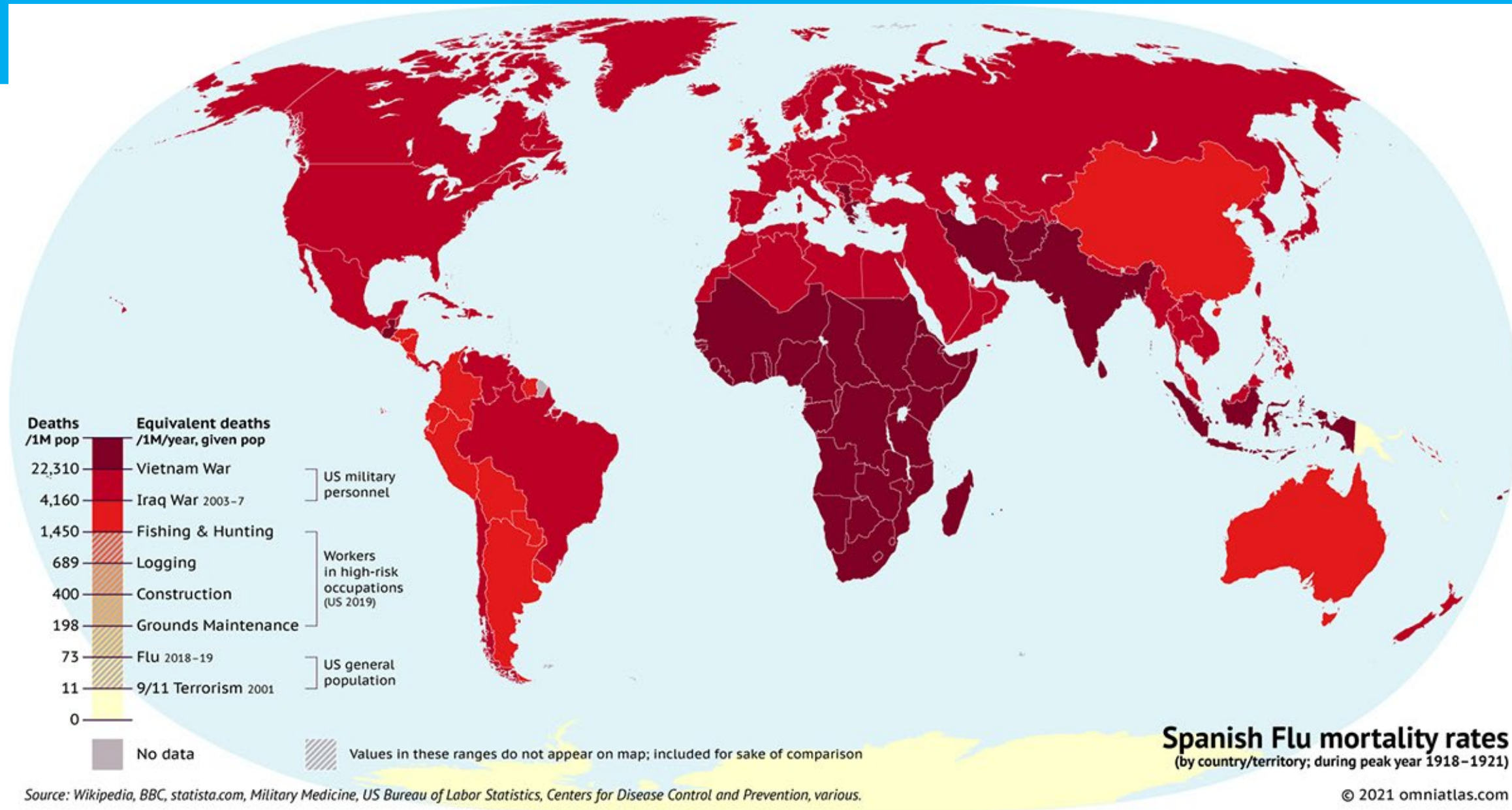
(2) 2022-01-10 (2) 2022-01-11 (2) 2022-01-12 (1) 2022-01-16 (1) 2022-01-18 (1) 2022-01-19 (1) 2022-01-20 (2) 2022-01-21 (1) 2022-01-22 (1) 2022-01-25 (1) 2022-01-26 (2) 2022-01-27 (2) 2022-01-28 (4) 2022-01-31 (1) 2022-02-01 (3) 2022-02-02 (9) 2022-02-03 (5) 2022-02-04 (1) 2022-02-05 (3) 2022-02-06 (2) 2022-02-08 (1)



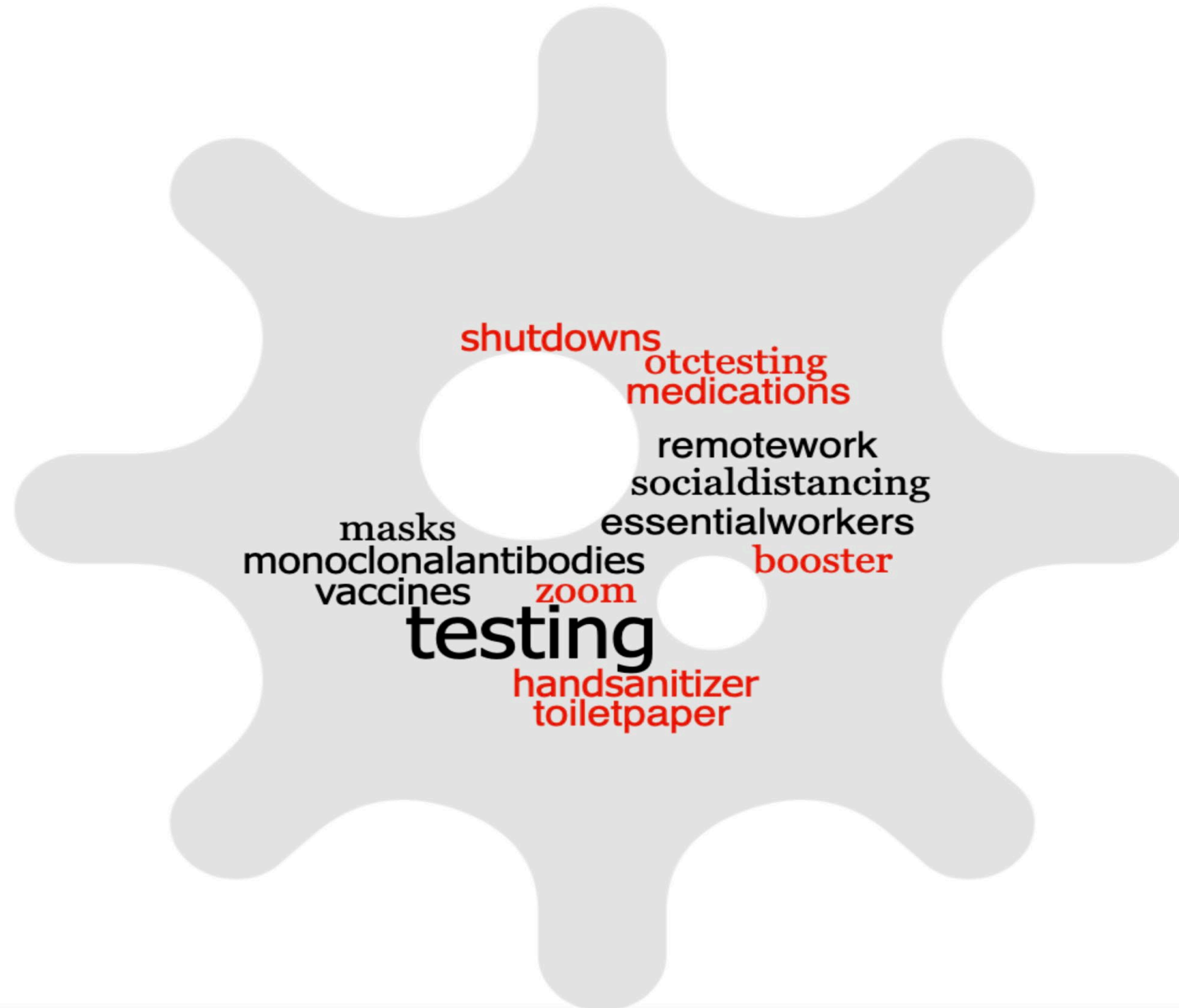
CAPTION

This graph shows the four distinct waves. Wave #1 March 1918 (Spring 1918 Wave), #2 October 1918 (Fall 1918 Wave), #3 December 1918 (Winter 1918 Wave) and #4 February 1920 (Winter 1920 Wave)





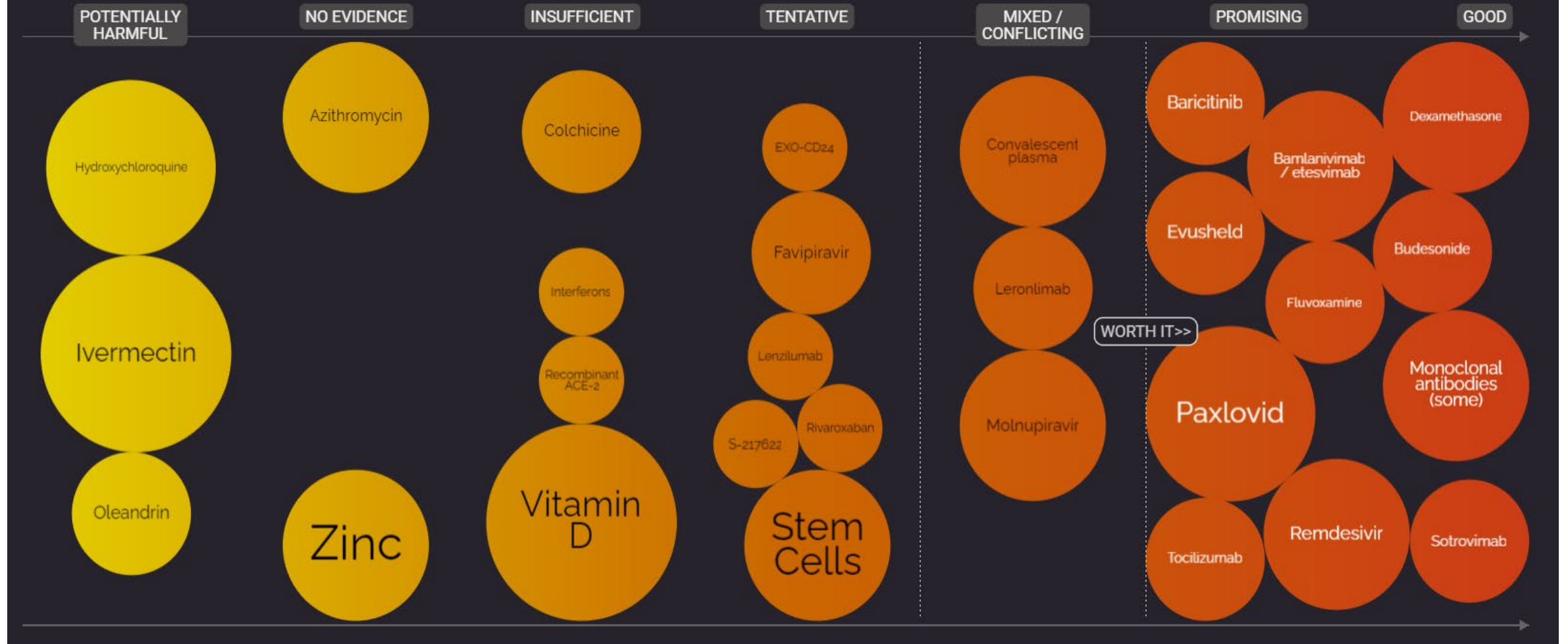
Trials and Learnings from Covid



COVID Treatments

BY EVIDENCE LEVEL...

size = media attention, roll over bubbles for more info



<https://informationisbeautiful.net/visualizations/covid-19-coronavirus-infographic-databack>

Self-Testing

- Reporting
- Accuracy
- Other Pitfalls





What's next?



South Carolina

PUBLIC EMPLOYEE BENEFIT AUTHORITY AGENDA ITEM
Health Care Policy Committee

Meeting Date: March 2, 2022

1. Subject: An Overview of Long COVID and Potential Impacts

2. Summary: An Overview of Long COVID and Potential Impacts—Dr. Derick Wenning of BlueCross will discuss the characteristics of “Long-COVID”—the persistence of symptoms four weeks or more after COVID diagnosis—and the various concerns related to this syndrome.

3. What is Committee asked to do? Receive as information

4. Supporting Documents:

(a) Attached: An Overview of Long COVID and Potential Impacts

An Overview of Long-COVID and Potential Impacts

Derick M. Wenning, MD, MSPopH
Associate Medical Director – Client
Services

BlueCross BlueShield of SC



South Carolina



PEBA
SC Retirement Systems
and State Health Plan

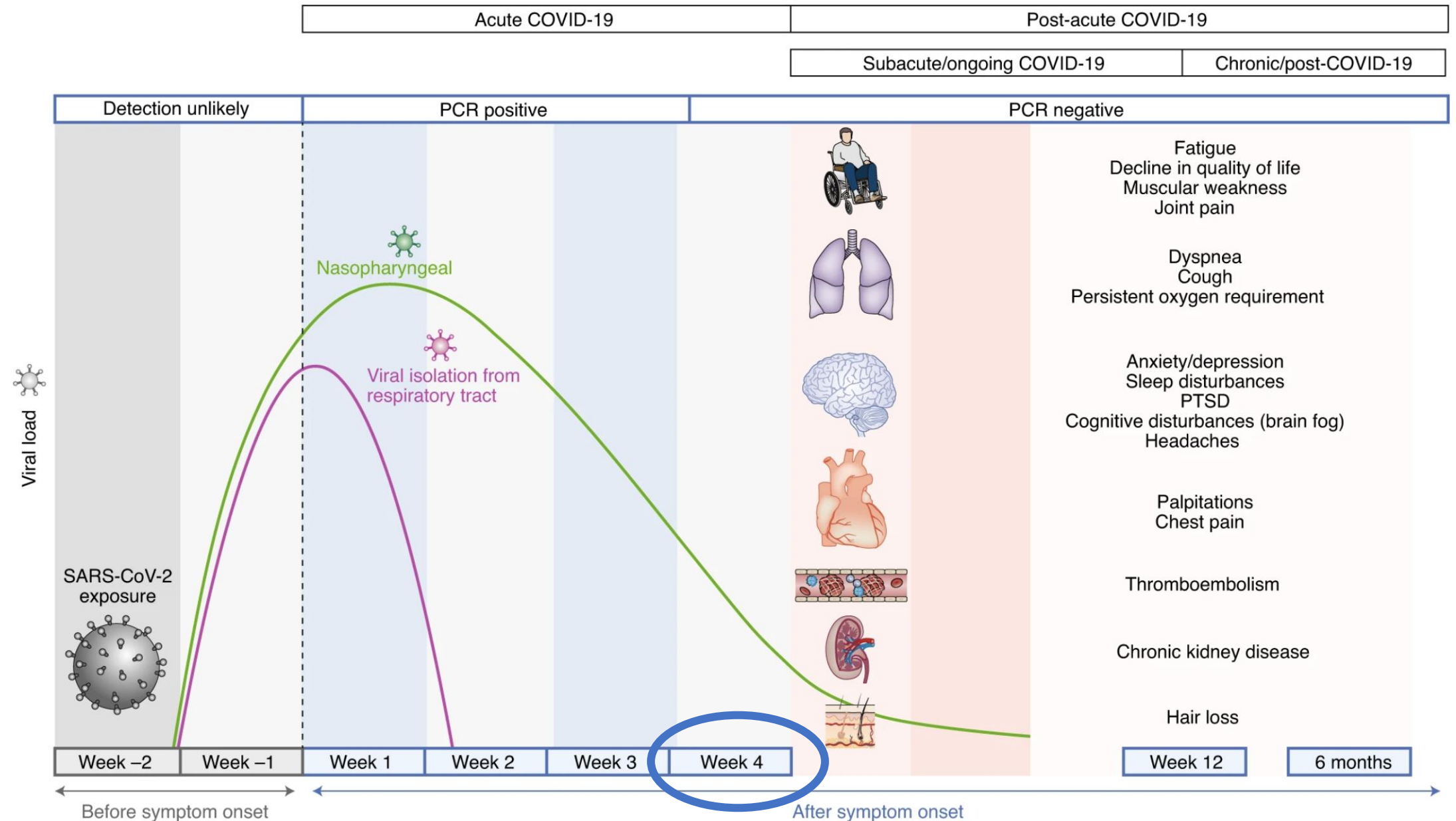
What do we call it?

- Long-COVID
- Post-COVID Conditions
- Post-Acute Sequelae of SARS-COV-2 Infection (PASC)
- “Long-Haulers”



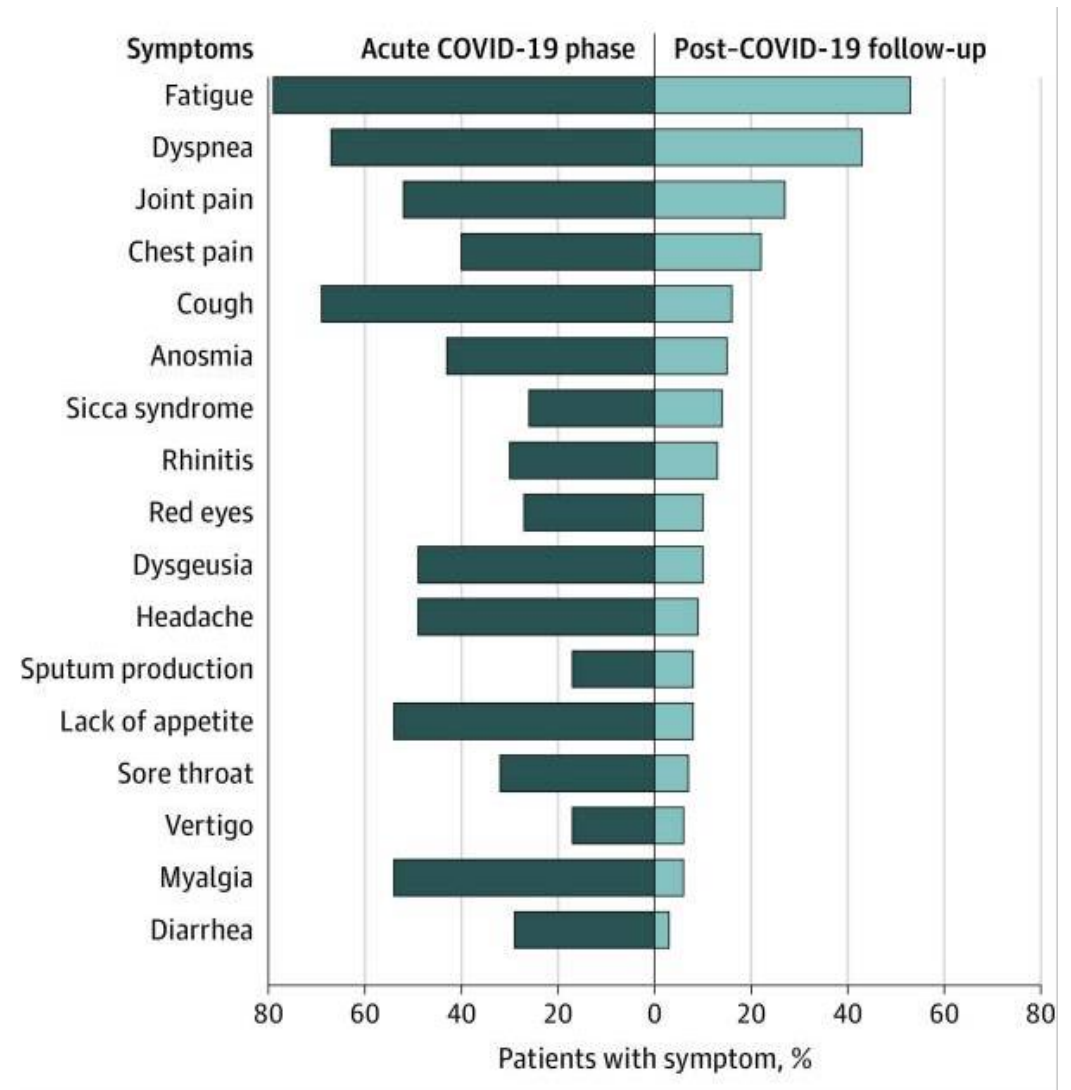
Fig. 1: Timeline of post-acute COVID-19.

From: Post-acute COVID-19 syndrome



Long-COVID Symptom Incidence

1. Fatigue
2. Shortness of Breath
3. Chronic Pain



What is the etiology?

Unknown pathophysiology

1. Autoimmune condition
2. Inflammatory sequelae
3. Virus Persistence / Reactivation



Opposing views

1. Long-COVID is a new syndrome that merits its own thorough investigation.
2. Others believe it has a non-physiological origin



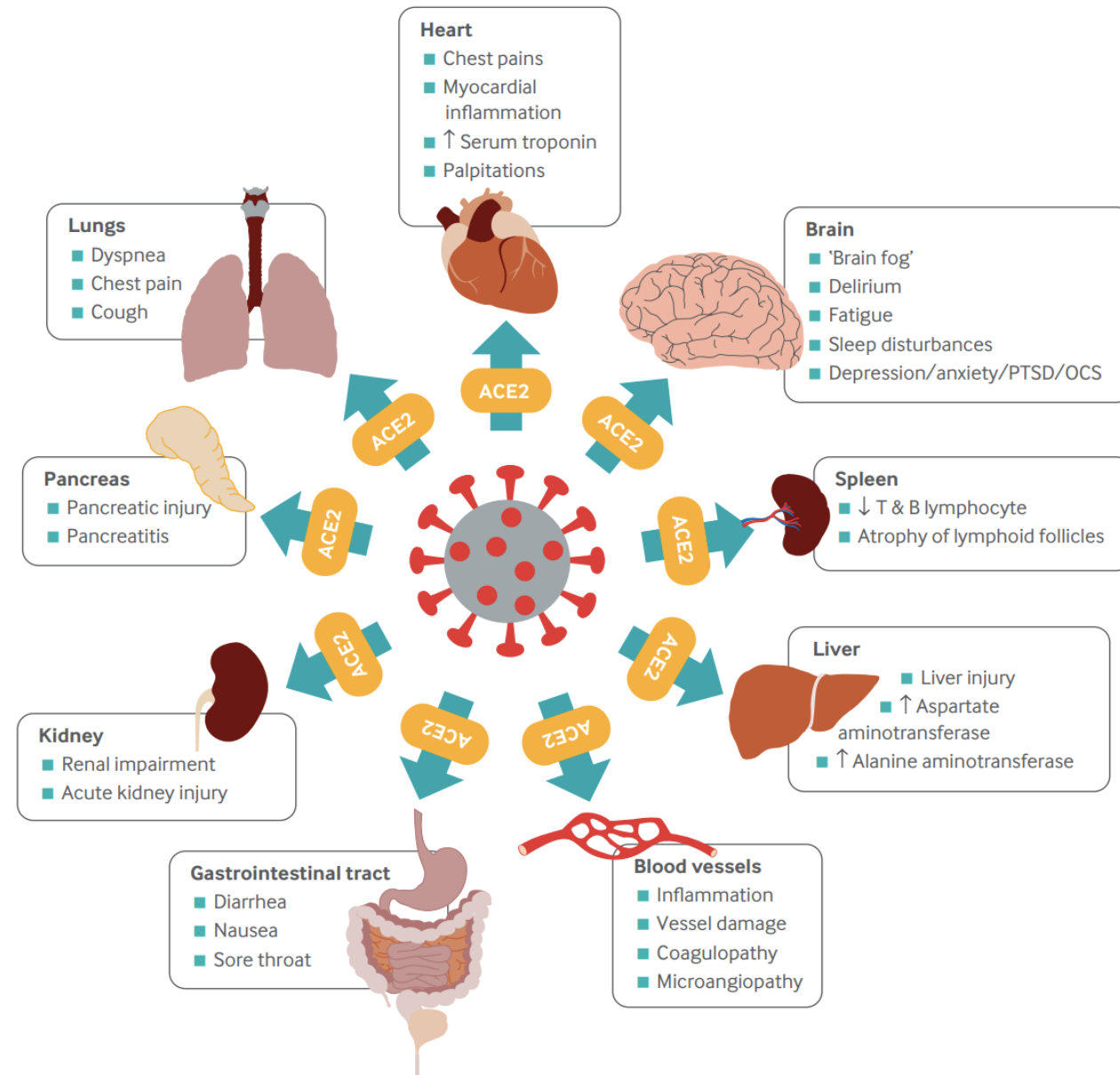
Long-COVID Etiology - Is it Autoimmune?

COVID-19 infects via the ACE2 receptor

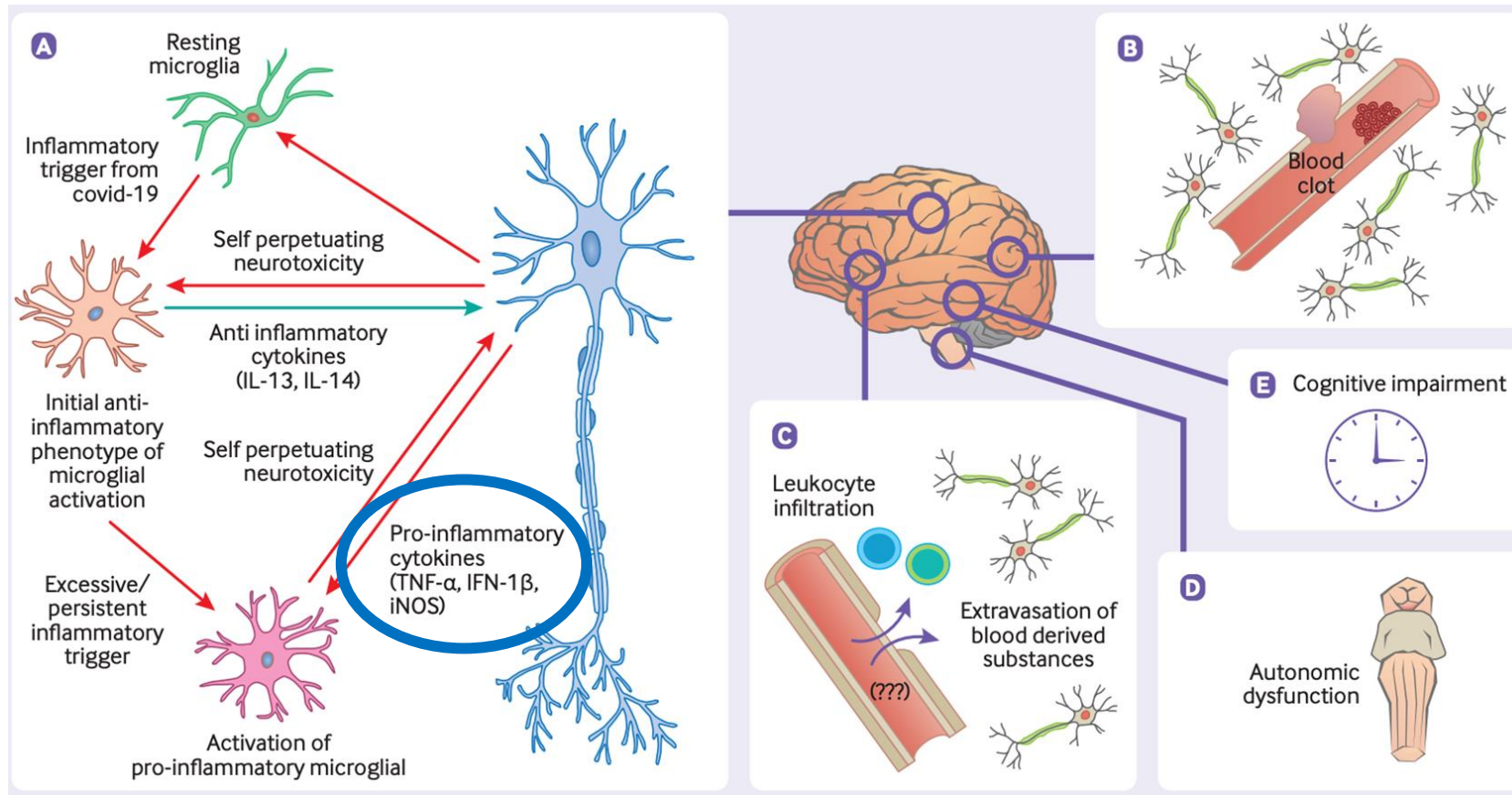
Infection stimulates inflammatory response

ACE2 autoantibodies potentially form

- *could* initiate a cascade of effects that lead to long COVID symptoms



Long-COVID Etiology - Is it Inflammation?

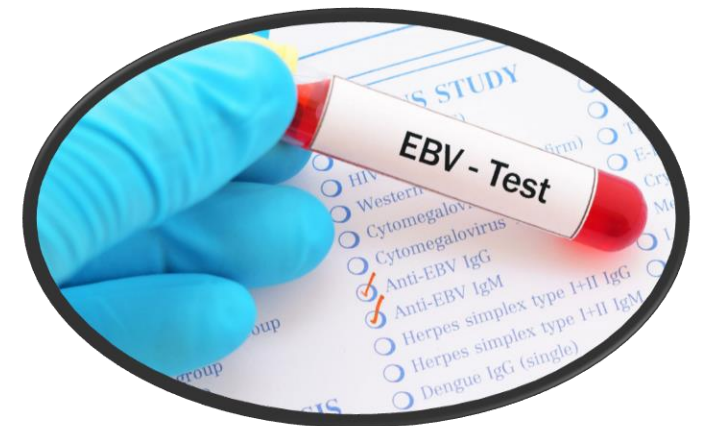
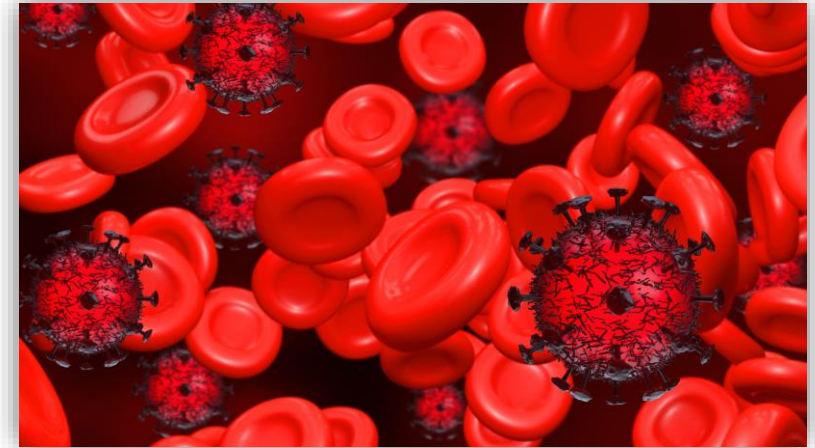


- Currently there is no pro-inflammatory marker that is diagnostic of Long-COVID.

Long-COVID Etiology – Virus Persistence/Reactivation

Among Long-COVID patients:

- Higher levels of circulating COVID-19
- EBV antibody and viral tests positive



Long-COVID Etiology – It's Multi-factorial

- Post-Viral Component
- Pre-existing conditions
- SDOH
- Behavioral Health Conditions



Is Severity of Long-COVID Predictable?

The severity and duration vary widely

Risk Factors:

- Hospitalized
- Age over 50
- Women > Men

10-15% have persistent symptoms > 6 months



Long-COVID Subtypes

- Respiratory
- Neurocognitive
- Behavioral Health
- Dysautonomia



Long-COVID - Respiratory

POST-ICU / Severe COVID-19

- Long-term Oxygen requirement
- Development of lung scarring
- Pulmonary fibrosis

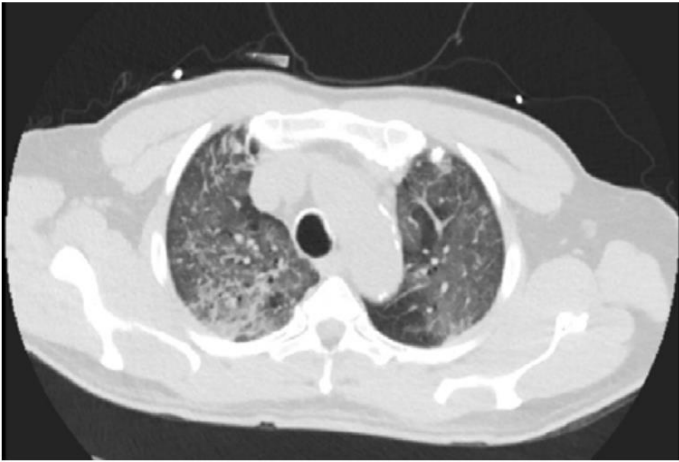
Mild-Moderate COVID-19

- Exercise Intolerance
- No CT evidence of lung damage

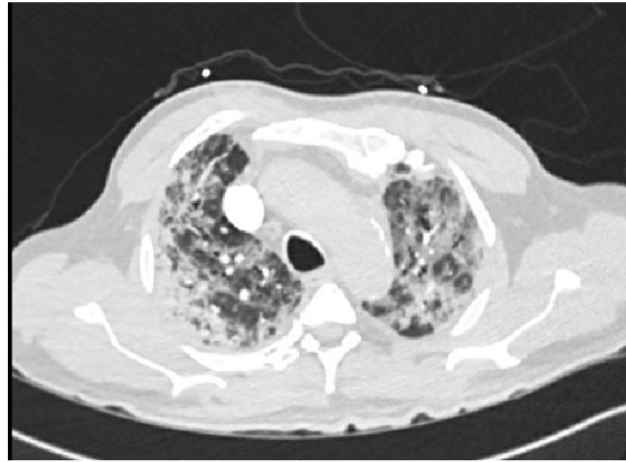


Long-COVID - Respiratory

Acute COVID-19- Day 2



Day 20 post COVID-19



Day 150 post COVID-19



Normal Lungs

Long-COVID - Neurocognitive

Mild Cognitive Impairment and/or 'Brain Fog'

- Very similar presentation to Chronic Fatigue Syndrome
- Epstein-Barr Virus hypothesis

Experimental treatments

- NADH/CoQ10 treatments
- Vitamin infusions



Long-COVID – Behavioral Health

Patients with acute COVID-19 who were discharged from the hospital:

- 24 % reported PTSD
- 22 % with anxiety/depression

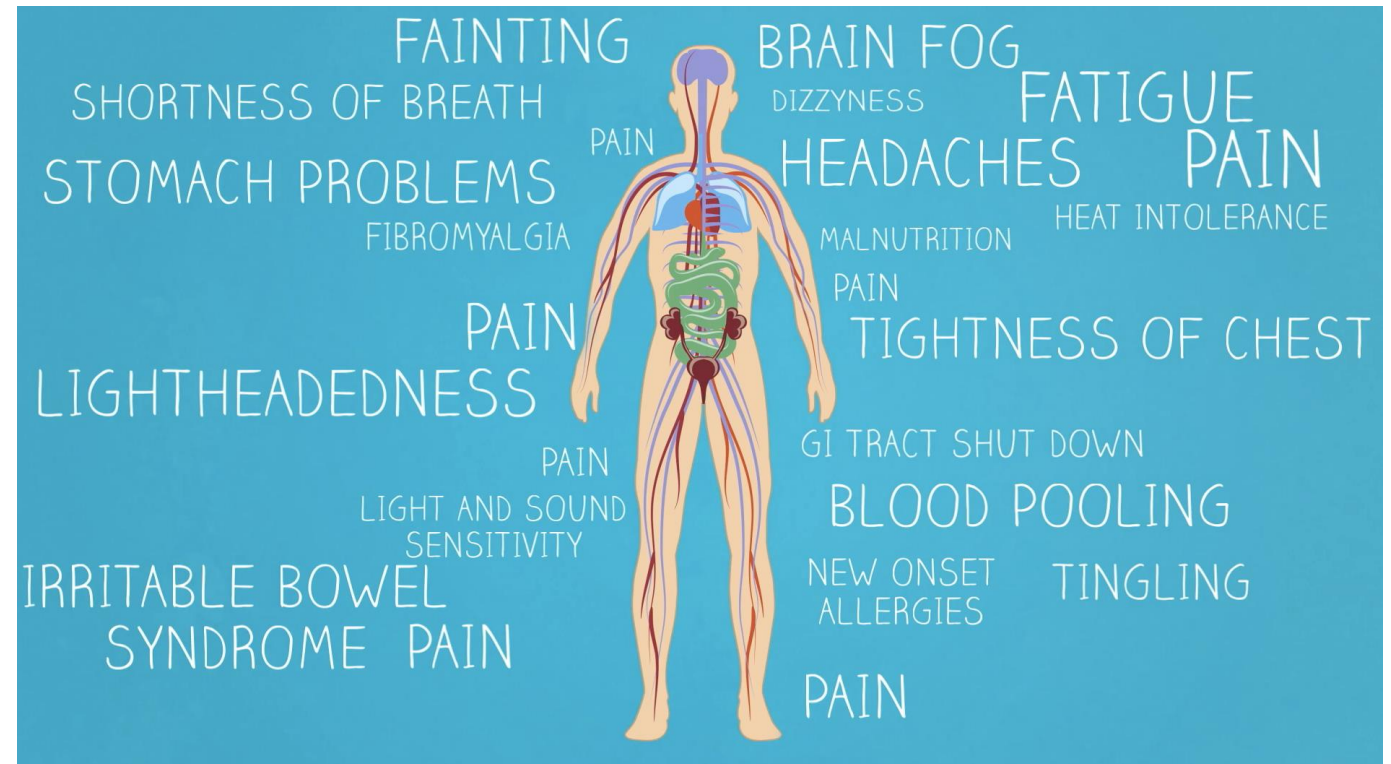
A second population of ICU survivors:

- Anxiety in 23%
- Depression in 18%
- PTSD symptoms in 7%



Long-COVID - Dysautonomia

- POTS
- Syncope
- Headaches
- Chronic Pain
- GI Disturbances



Long-COVID Management

Prevention is our best option

- A study of 163 Long-COVID patients
- At 30 days - Long-COVID symptoms improved in 30-40%

In newly vaccinated

- Odds of Long-Covid symptom development halved

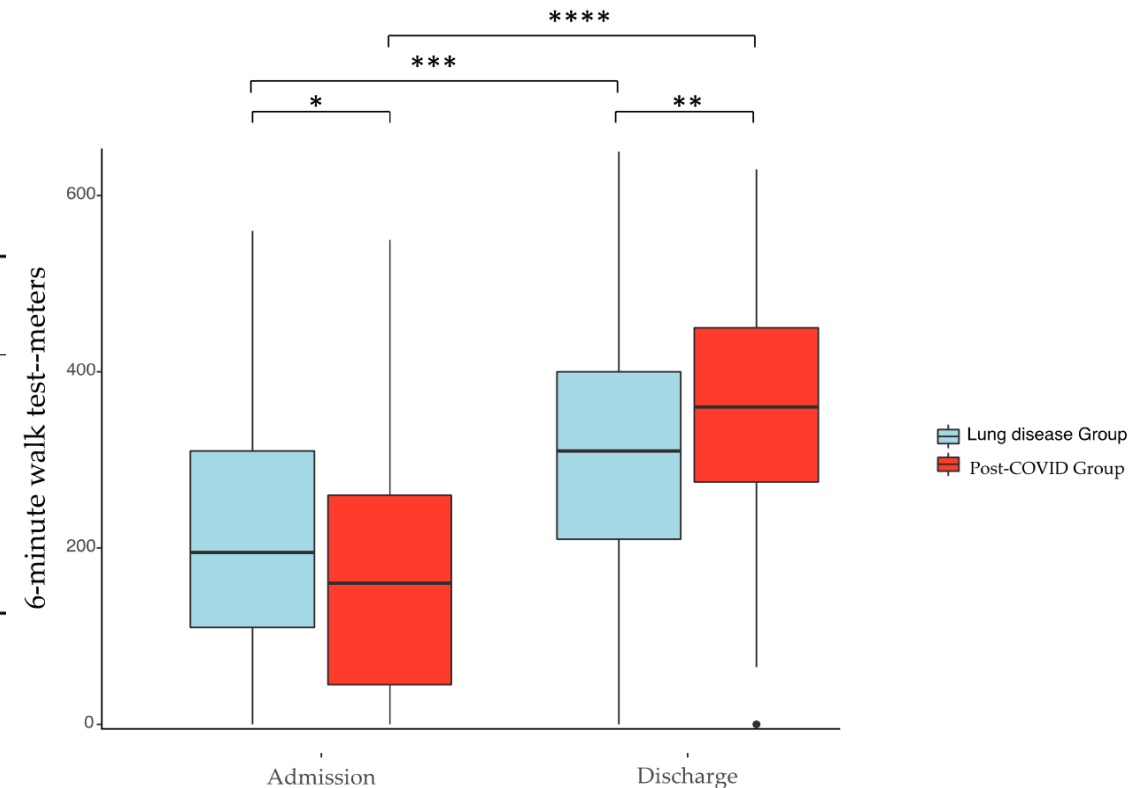


Long-COVID Respiratory Management

Chronic Dyspnea / SOB / Exercise Intolerance

Pulmonary Rehabilitation

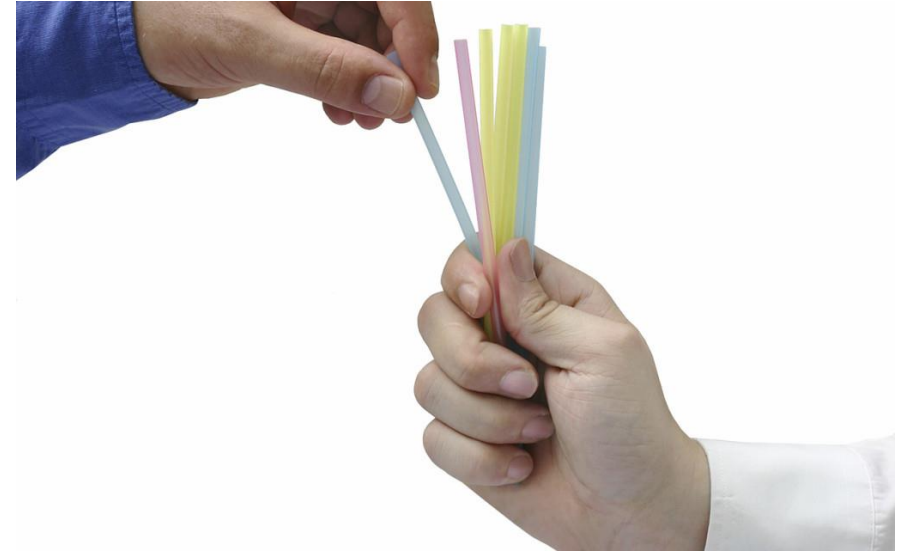
Type of Exercise	Frequency per Week	Maximum Duration per Session (min)
Endurance	5-6	10-30
Gymnastics	5-6	45
Outdoor walking	2-3	45
Strength training	3-4	30
Relaxation	2	45
Respiratory therapy	3	30



Long-COVID Clinics

Multi-disciplinary approach

- Pulmonology
- Cardiology
- Neurology
- Psychiatry
- Rehab
- Telemedicine Role
- Several ongoing RCTs testing existing pharmacotherapies
- NIH announced \$1.15 billion in research funding over 4 years



Long-COVID Estimates - SC

COVID-19 SURVIVING CASES (TOTAL)

1,442,280

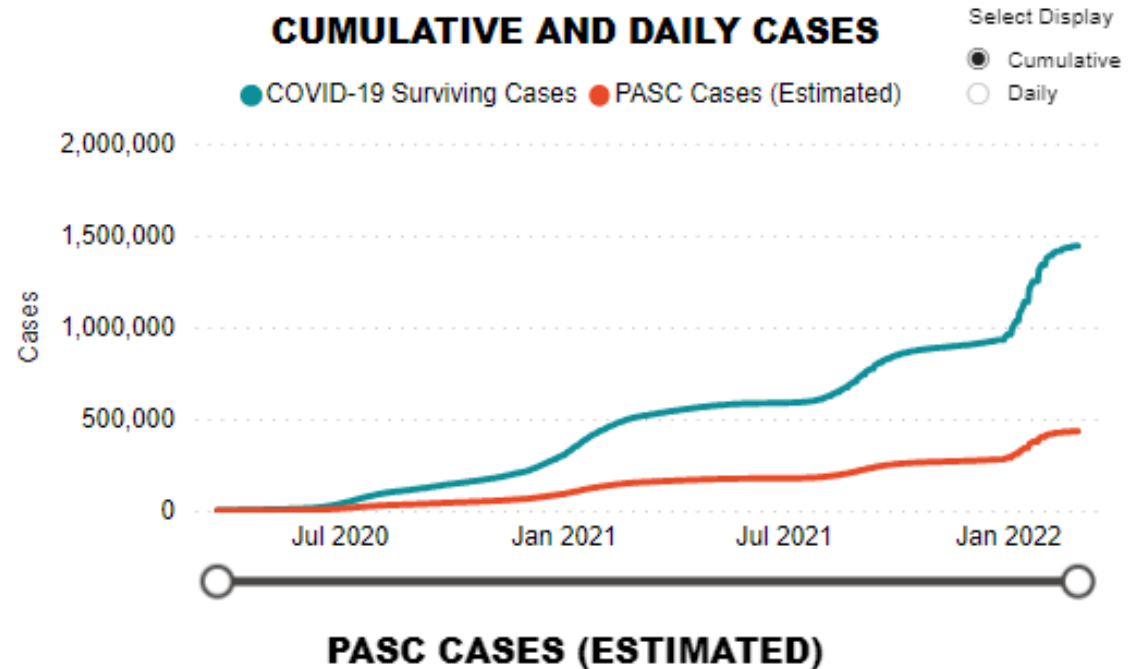
PASC CASES (ESTIMATED)

432,684

ESTIMATED PASC CASES PER STATE

State	PASC Cases (Estimated)
South Carolina	432,684

CUMULATIVE AND DAILY CASES



Long-COVID – Takeaways and Next Steps

Respiratory

- Continue to evaluate best practices for outcomes and improved quality of life

Neurocognitive

- Very similar to CFS – will likely see utilization of experimental treatments

Behavioral

- New diagnoses for members
- Bandwidth for support

Dysautonomia

- Treatments for specific conditions



Long-COVID Management



LONG COVID
ALLIANCE



DYSAUTONOMIA

IS YOUR NERVOUS SYSTEM
FUNCTIONING CORRECTLY?



SURVIVOR  **R**  **CRPS**



South Carolina

Long-COVID & Media Coverage

Newsweek

'I Got COVID 9 Months Ago and Still Have Symptoms'

60 MINUTES

PUZZLING, OFTEN DEBILITATING AFTER-EFFECTS PLAGUING COVID-19 "LONG-HAULERS"

Doctors are still searching for answers to why a portion of people who were diagnosed with COVID-19 are still suffering symptoms months later. Anderson Cooper reports.

SCIENTIFIC AMERICAN.

LOCAL // HEATHER KNIGHT

S.F. Millennial was fit and healthy before COVID-19. He's a disabled 'long-hauler' now

Heather Knight | Jan. 8, 2021 | Updated: Jan. 10, 2021 4:30 p.m.

The New York Times

For Long-Haulers, Covid-19 Takes a Toll on Mind as Well as Body

"It makes you depressed, anxious that it's never going to go away."



HEALTH - Published August 23

Coronavirus survivors plagued by long-term ailments

Symptoms include losing sense of smell, dry cough, fever and chronic fatigue



SHORT WAVE

What's It Like To Be A COVID-19 'Long Hauler'

November 9, 2020 - 4:00 AM ET

Vox

The many strange long-term symptoms of Covid-19, explained

Long Covid "is a phenomenon that is really quite real and quite extensive," Anthony Fauci said.

By Lois Parshley | Dec 15, 2020, 4:20pm EST



Long Covid: 'I thought I'd get over this no problem'

By Claire Seayth
BBC News 10

San Francisco Chronicle

PUBLIC HEALTH | OPINION

The Problem of 'Long Haul' COVID

More and more patients are dealing with major symptoms that linger for months

By Carolyn Barber on December 29, 2020



South Carolina

Questions?