

Activation of Volunteer Responders to Out-of-Hospital Cardiac Arrest During the COVID-19 Outbreak in Denmark 2020

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Mads Tofte Gregers in New Zealand...

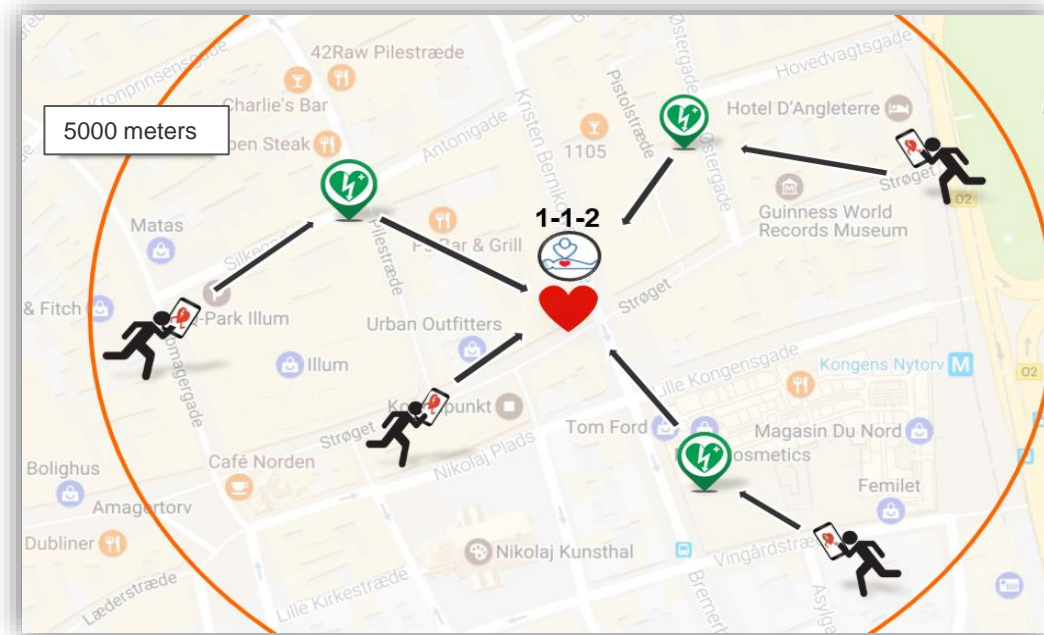


**A clever
person solves
a problem.
A wise person
avoids it.**





THE DANISH CITIZEN RESPONDER PROGRAM



1/ Accept alarm



2/ Live guide



3/ Run!



4/ Save a life



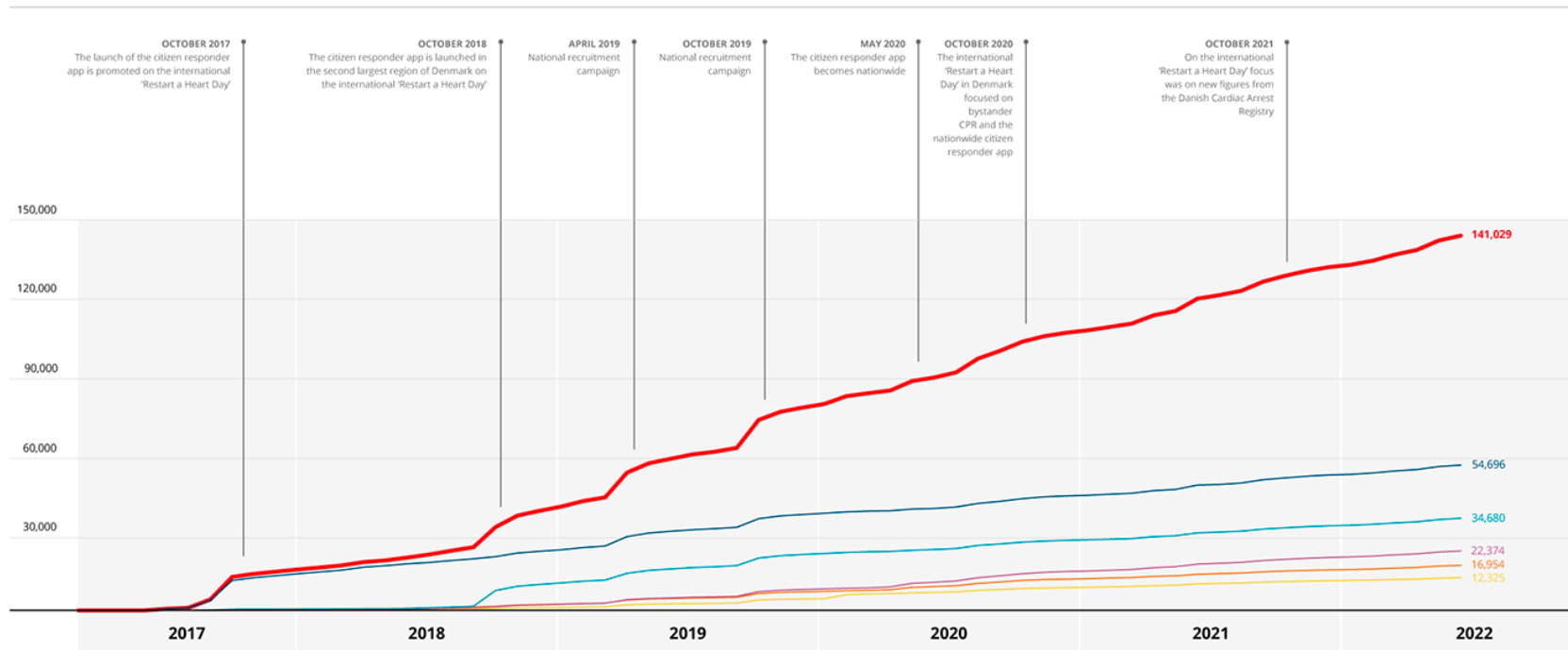
THE DANISH VOLUNTEER RESPONDER PROGRAM **TrygFonden**

In numbers...

TrygFonden Citizen Responder Application – Development in Registered Citizen Responders 2017-2022

2,458 registered citizen responders/100,000 inhabitants (September 13, 2022)

● TOTAL ● CAPITAL REGION OF DENMARK ● CENTRAL DENMARK REGION ● REGION OF SOUTHERN DENMARK ● REGION ZEALAND ● NORTH DENMARK REGION



Updated June 30 2022



1:1



25% health professionals



>95% with first aid course

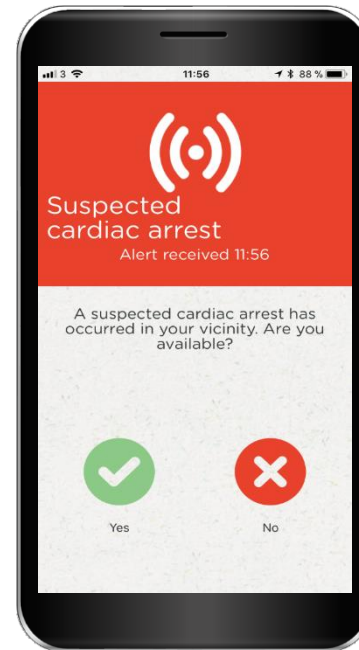
HOW IS IT GOING?

2017-2022

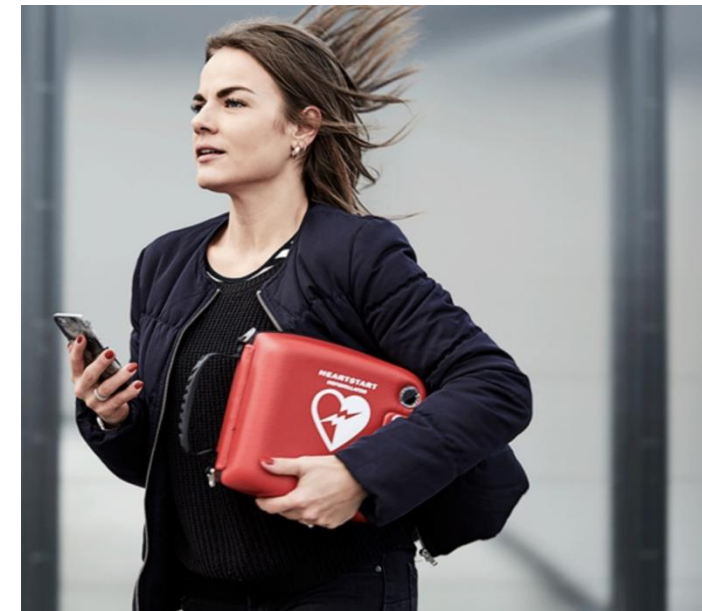
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≈160,000 alarmed citizen responders

≈9,684 suspected out-of-hospital cardiac arrests



≈55,000 accepted the alarm!



JUST UNTIL...

March 2020

TrygFonden



CPR during Covid-19???



Covid-19's effect on volunteer responder programmes in Europe

Restrictions implemented:

- 1) Citizen responders in risk of severe COVID-19 should not accept alarms
- 2) Perform chest-compression-only CPR



50% paused volunteer responder programs

**50% continued with substantial changes
- Typically compression-only CPR**

Bystander CPR in the COVID Era: Risk Too Low to Worry About

— Don't waste time putting on PPE, group suggests

by Nicole Lou, Staff Writer, MedPage Today June 5, 2020



COVID-19 identified in <10% of all OHCA's

“CHANCE OF SAVING A LIFE IS MUCH HIGHER THAN THE RISK OF DEATH DUE TO COVID-19”

Circulation

Volume 142, Issue 5, 4 August 2020; Pages 507-509
<https://doi.org/10.1161/CIRCULATIONAHA.120.048951>



RESEARCH LETTER

Prevalence of COVID-19 in Out-of-Hospital Cardiac Arrest Implications for Bystander Cardiopulmonary Resuscitation

Michael R. Sayre, MD , Leslie M. Barnard, MPH , Catherine R. Counts, PhD, MHA , Christopher J. Drucker, PhD , Peter J. Kudenchuk, MD , Thomas D. Rea, MD, MPH , and Mickey S. Eisenberg, MD, PhD 



COVID-19 AND VOLUNTEER RESPONDER ACTIVATION

Will it matter? Our hypothesis:

- 1) Fewer citizen responder will accept alarms
- 2) Increased distance to accessible AED
- 3) Decreased bystander interventions
- 4) A shift towards chest-compression-only CPR
- 5) Increased psychological impact



METHODS

In- and exclusion criteria

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Inclusion criteria

- EMS treated out-of-hospital cardiac arrest with citizen responder activation
- Central Denmark Region and Northern Denmark
- Between January 1, 2020 and June 30, 2020 (lockdown period March 11 to April 20, 2020)



Survey questions

- What type of CPR did you perform?
- What psychological impact did the experience have on you?





Exclusion criteria

- EMS witnessed arrests
- Missing survey response

RESULTS

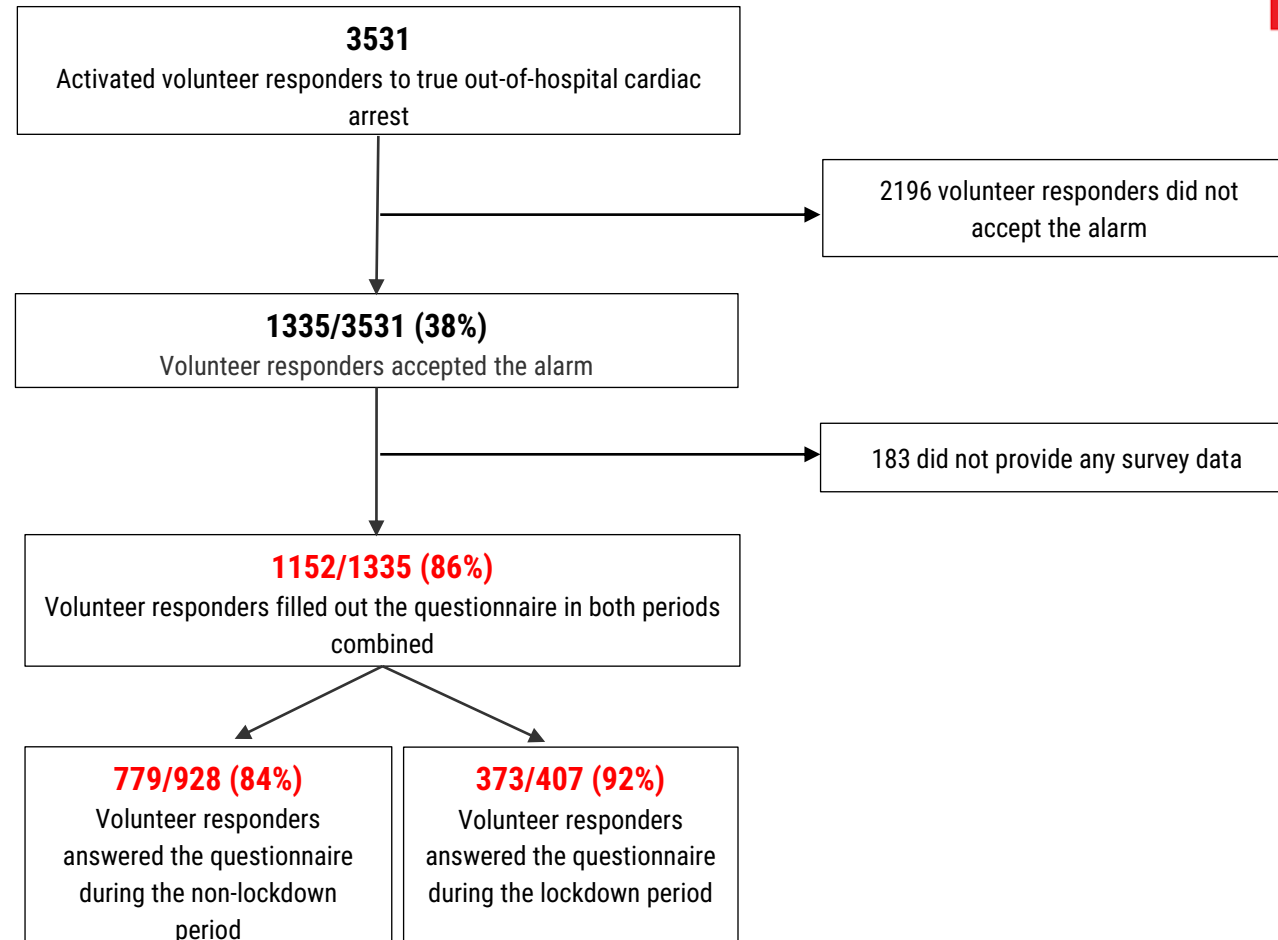
Primary outcomes

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	Non-lockdown (141 days)	Lockdown (41 days)	P-value
 Bystander CPR, n/N (%)	168/182 (92%)	73/74 (99%)	0.07
 Bystander defibrillation, n/N (%)	25/182 (14%)	7/74 (9%)	0.4
 Distance to AED, meter, median (IQR)	354 (406)	360 (400)	0.1
 Number of volunteer responders who accepted the alarm, n, median (IQR)	6 (4)	7 (4)	<0.0001

RESULTS

Survey items inclusion



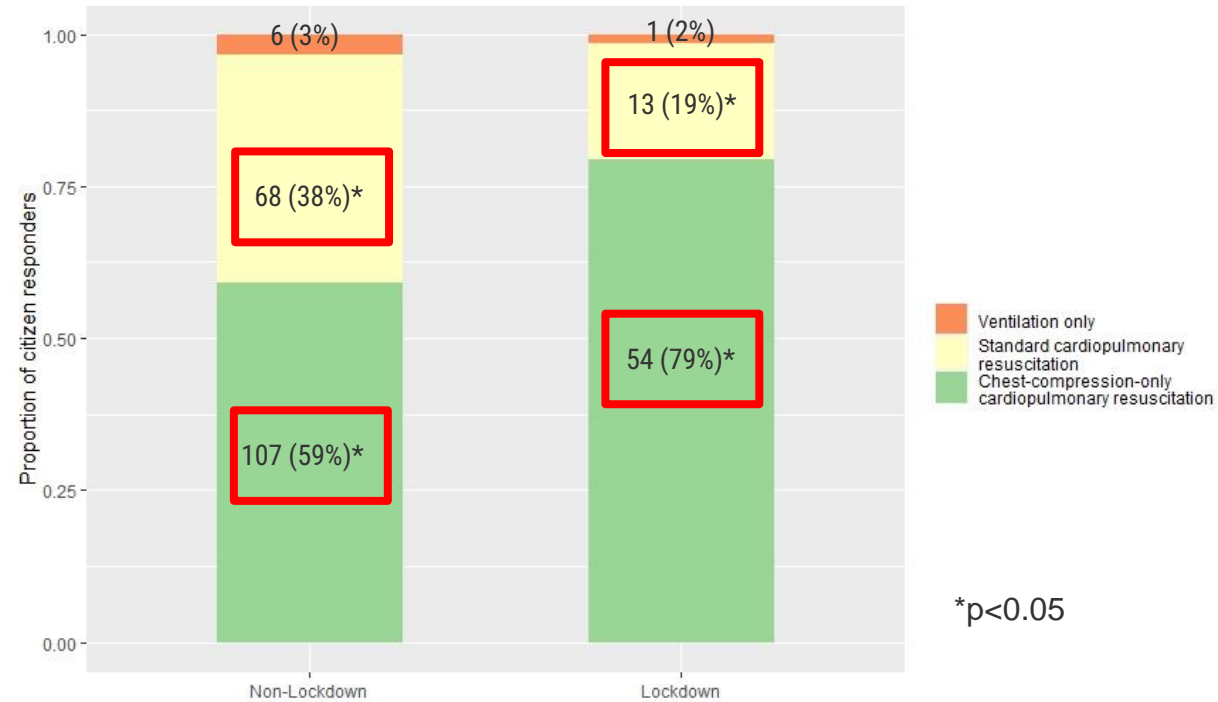
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RESULTS

Primary outcomes – resuscitation type performed

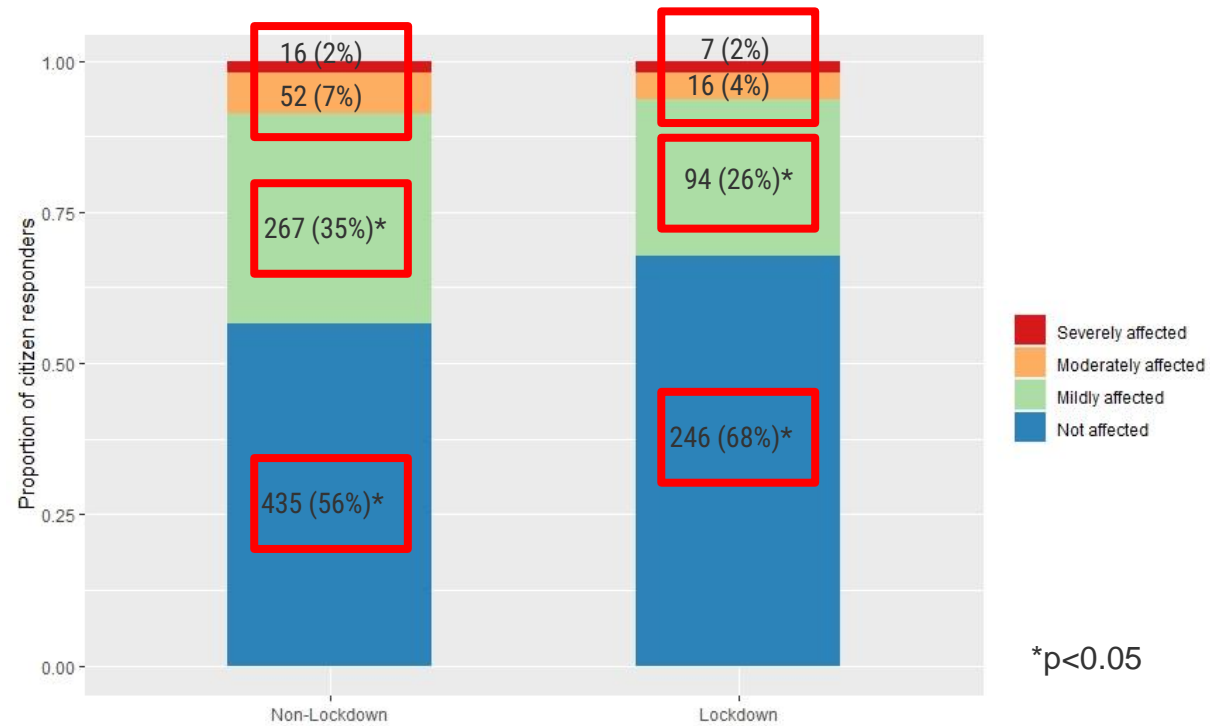
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RESULTS

Primary outcomes – psychological impact

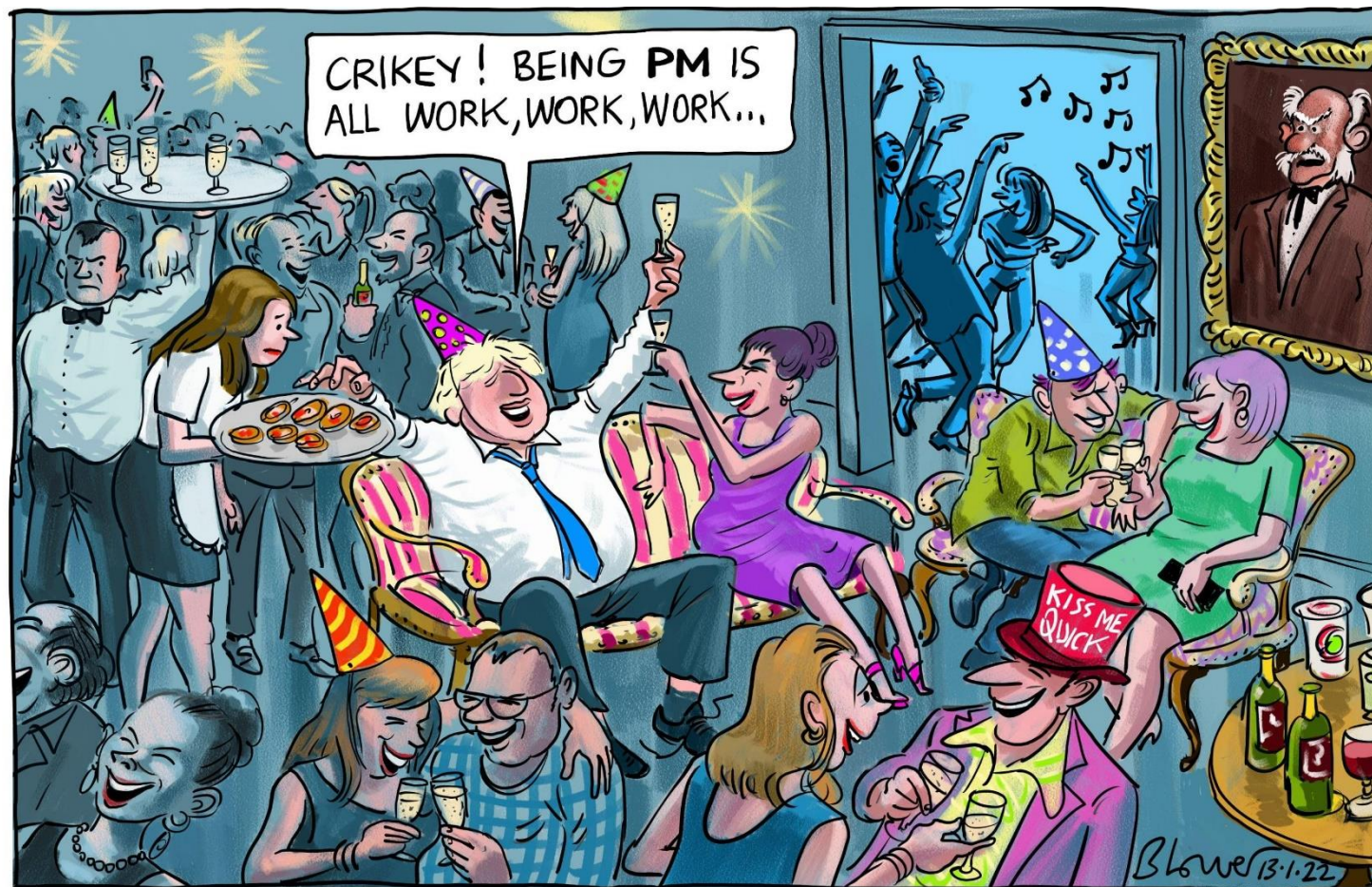
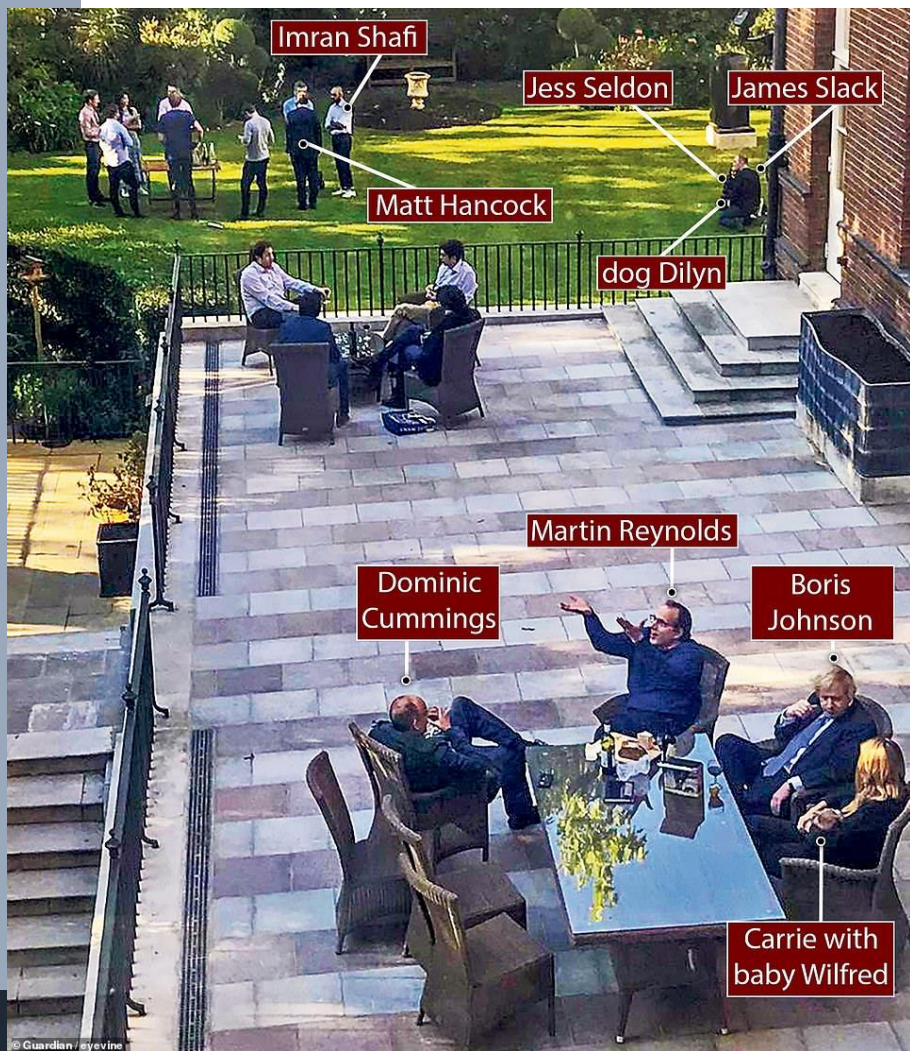
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Feared this...



Got this...





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CONCLUSION

- The Danish citizen responders **continued to accept alarms** during the first COVID-19 lockdown in Denmark
- Bystander interventions as **cardiopulmonary resuscitation and defibrillation remained high**
- Citizen responders were **more likely to perform chest-compression-only CPR** during the lockdown period
- Citizen responders **did not** report increased stress during resuscitation attempts in the lockdown period