

The Intelligence Cycle of EMS Data



Rob Lawrence

Pro EMS

Prodigy EMS

Communications Ctte Chair - AAA

Executive Director - CAA





Rob Lawrence

EMS One-stop

Data is still my favorite four-letter word

Gaining signals from noise and understanding the trajectory of service delivery

Oct 14, 2020

When I started speaking on the U.S. national circuit a decade ago, I delivered a standard presentation called “Data my favorite four-letter word.” The aim of the lecture then was to convince listeners and agencies that they really did have enough **data and information to collect, collate, process and trend** into actionable intelligence to support solid decision making.

In my own organization, I banned anecdotal evidence and retired the phrase, “well we always did it this way,” and replaced it with, “If we do what we always did, we will get what we always got.” I also forbade the use of the word “multiple” when describing a quantity of whatever it happened to be with the good-natured rebuttal, “multiple is a word, not a number – how many of x were there?” That was then. I’m delighted to see that we are now data savvy and are using data to inform decisions and actions in EMS.

2013 SUMMIT

PEAK
PERFORMANCE



Data!

My Favorite Four Letter Word

Rob Lawrence

Chief Operating Officer

Richmond Ambulance Authority



ATP 2-01.3

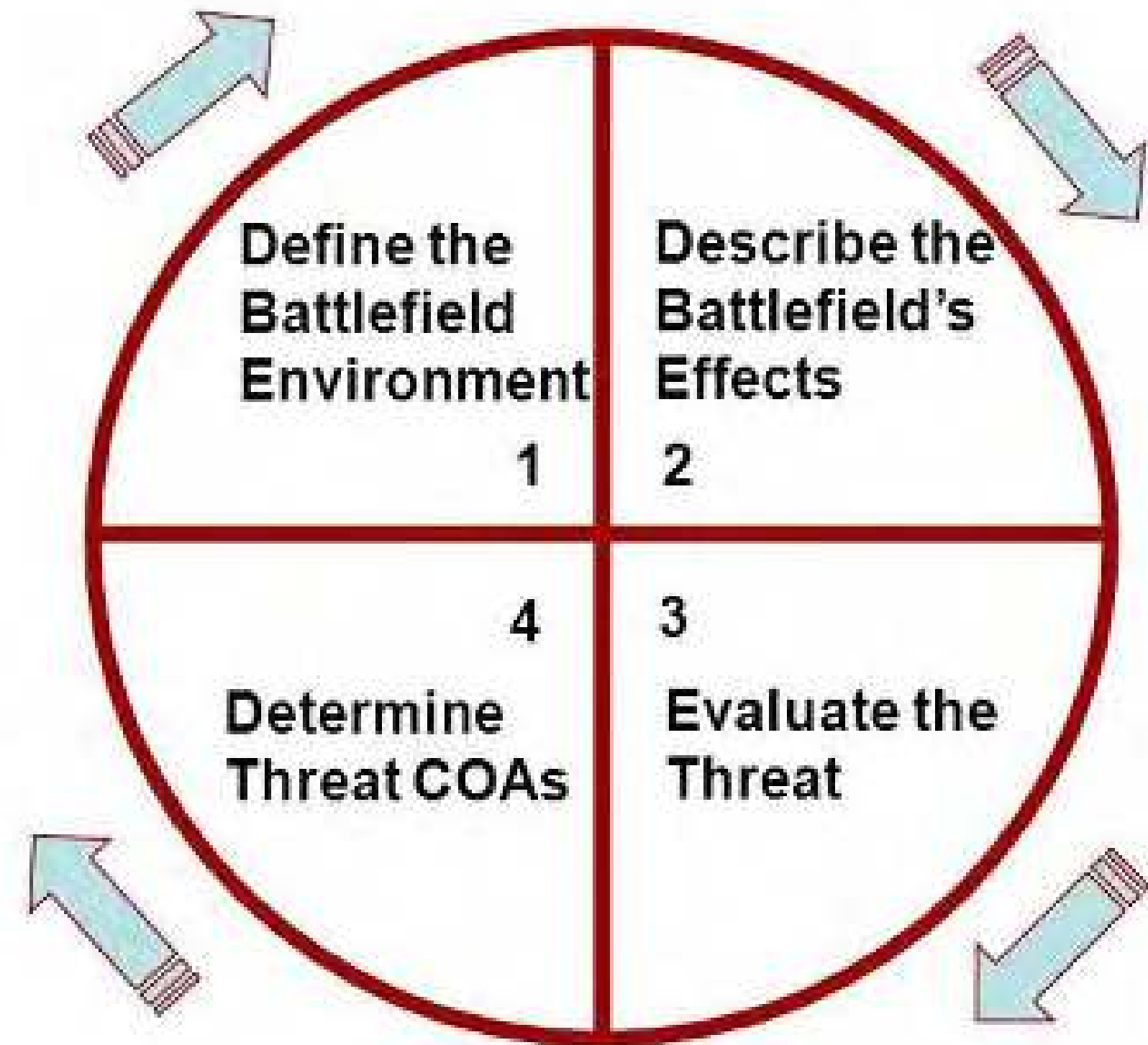
ARMY TECHNIQUES PUBLICATION

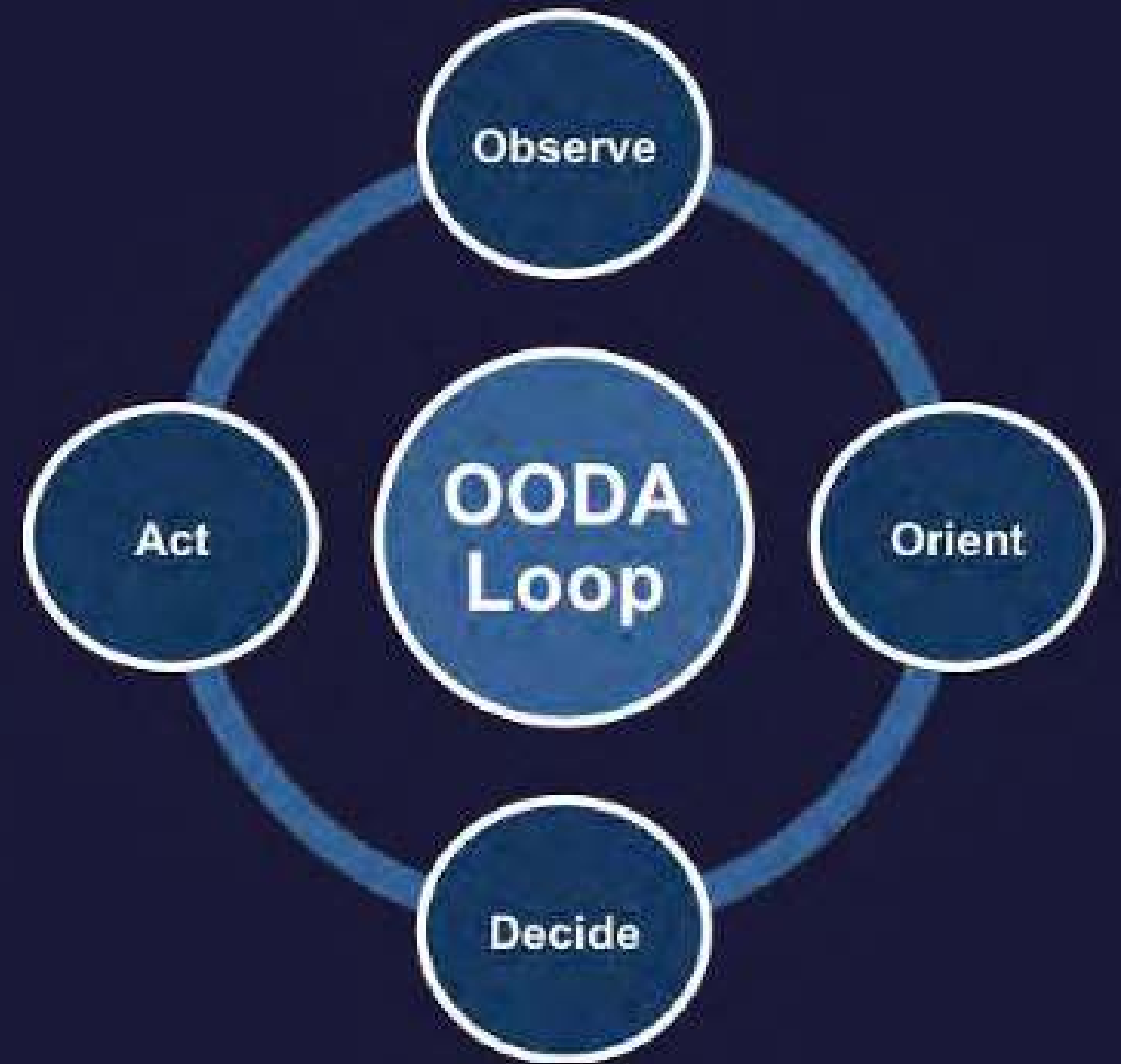
INTELLIGENCE PREPARATION OF THE BATTLEFIELD / BATTLESPACE

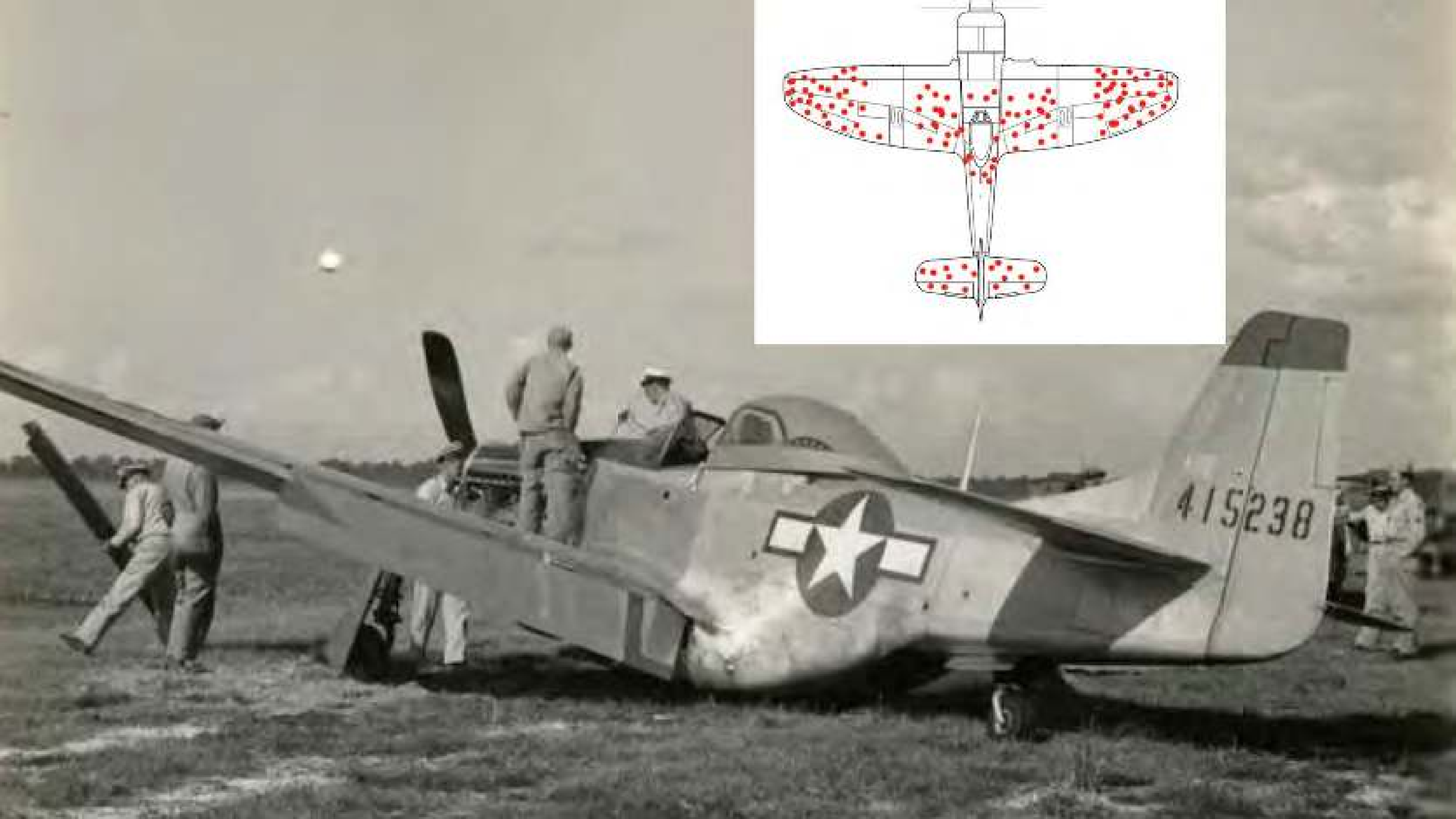
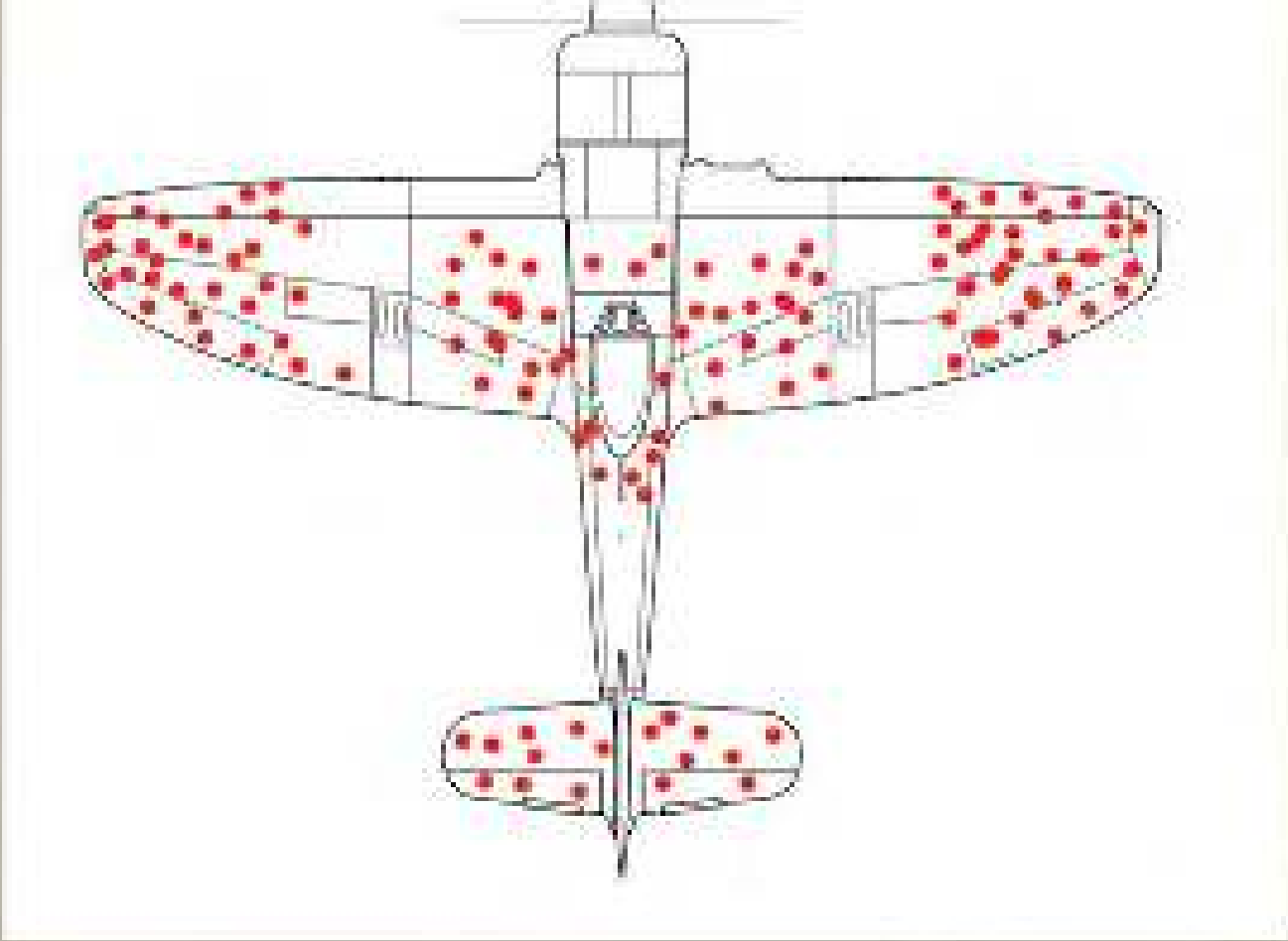
NOVEMBER 2014

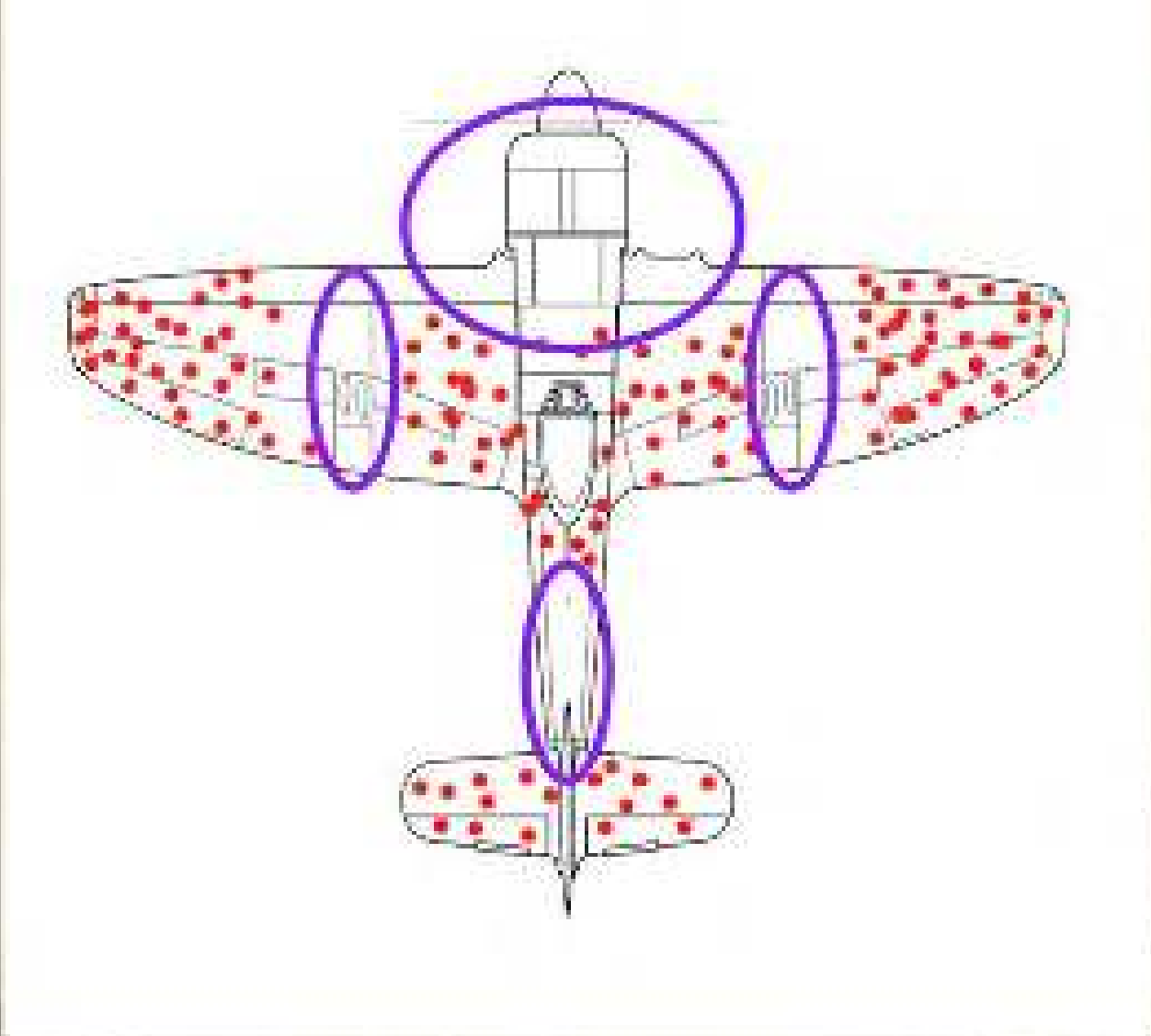
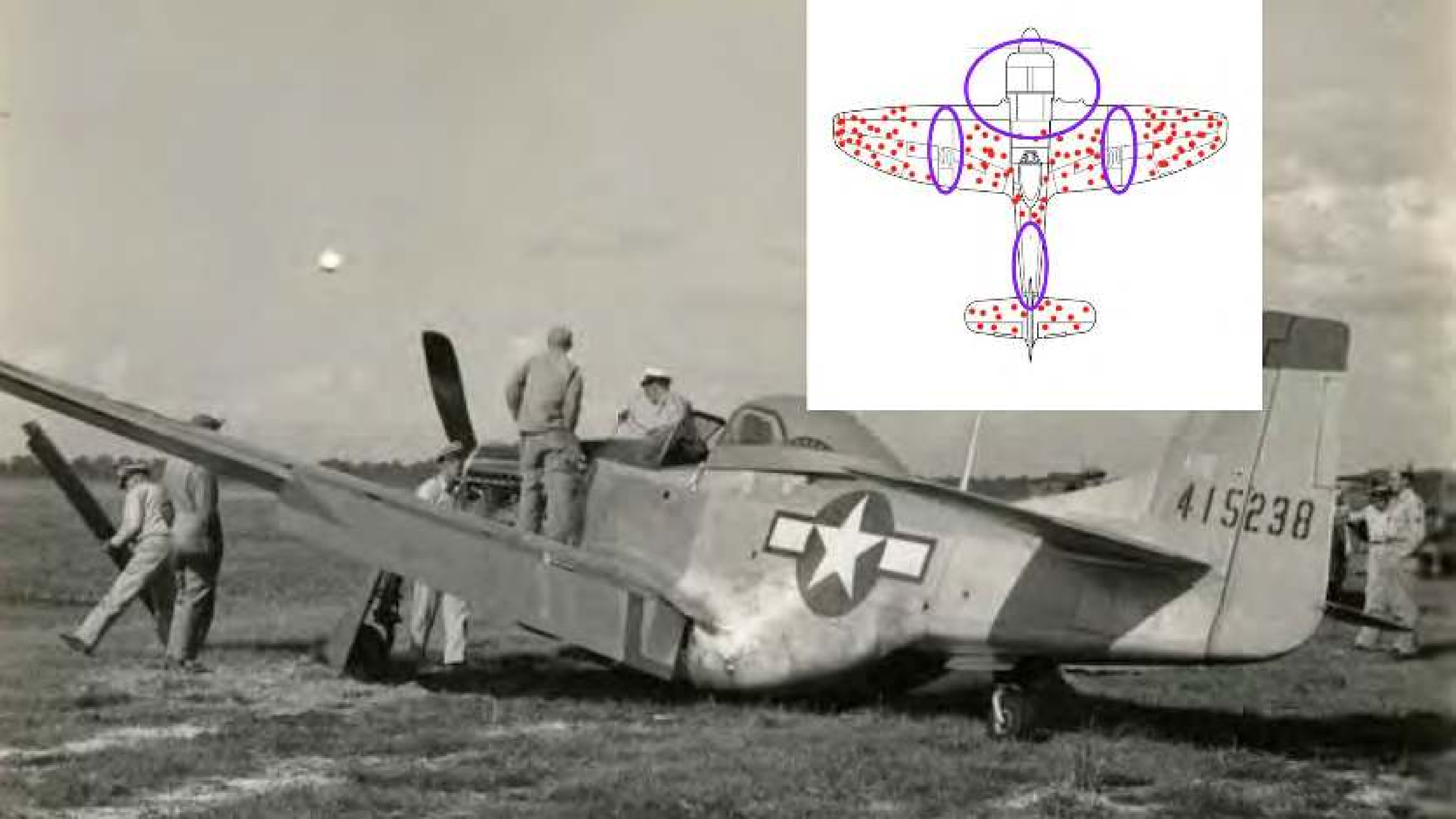
HEADQUARTERS, DEPARTMENT OF THE ARMY

Four Steps of IPB









Our Numbers must tell a story....

867-5309

FUTURE OF EMERGENCY CARE

EMERGENCY MEDICAL SERVICES AT THE CROSSROADS

AGAIN!!!!



INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES



FUTURE OF EMERGENCY CARE

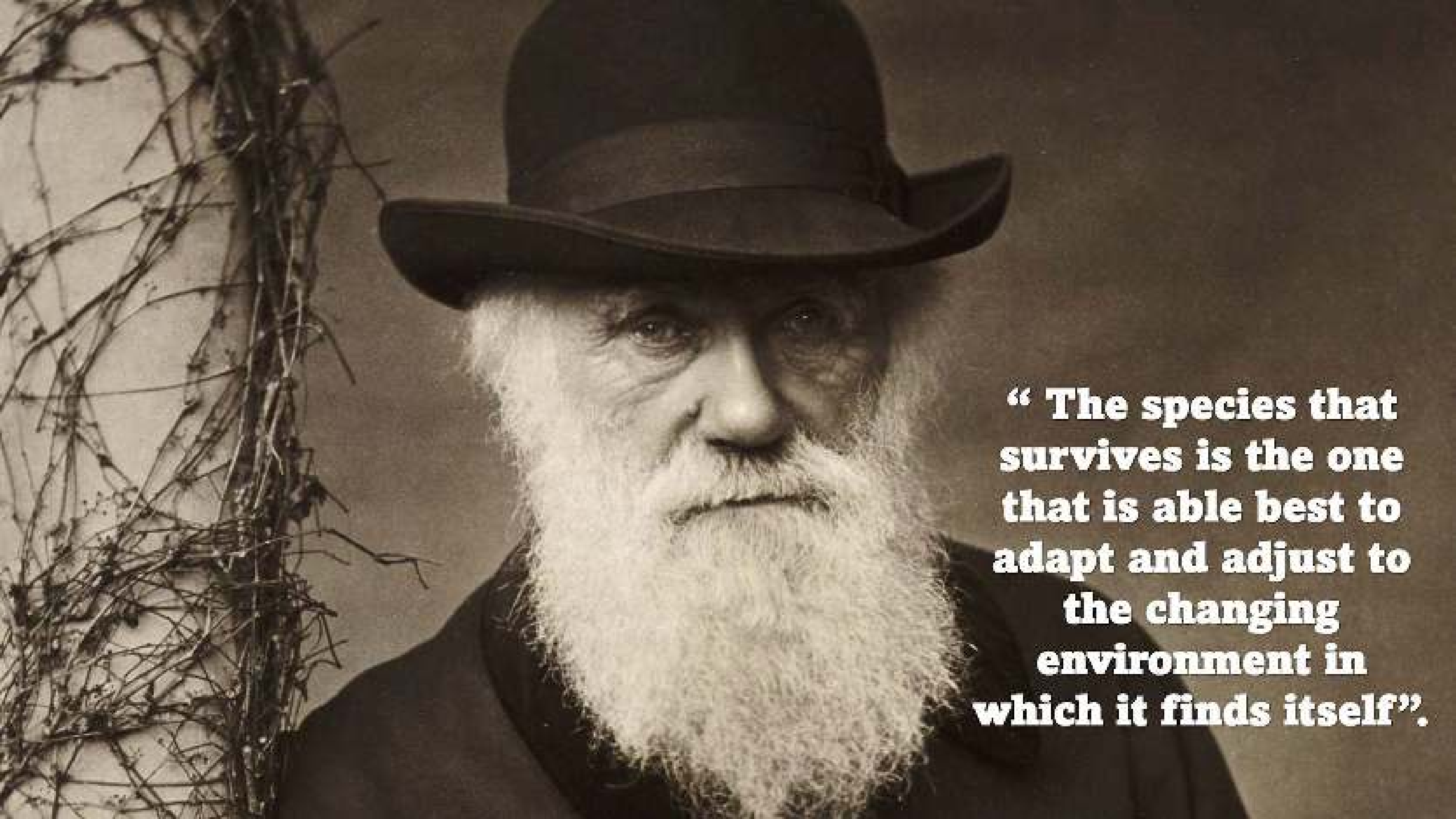
EMERGENCY MEDICAL SERVICES AT THE CROSSROADS

AGAIN!!!!



INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES





“ The species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself”.

2020...



BBC

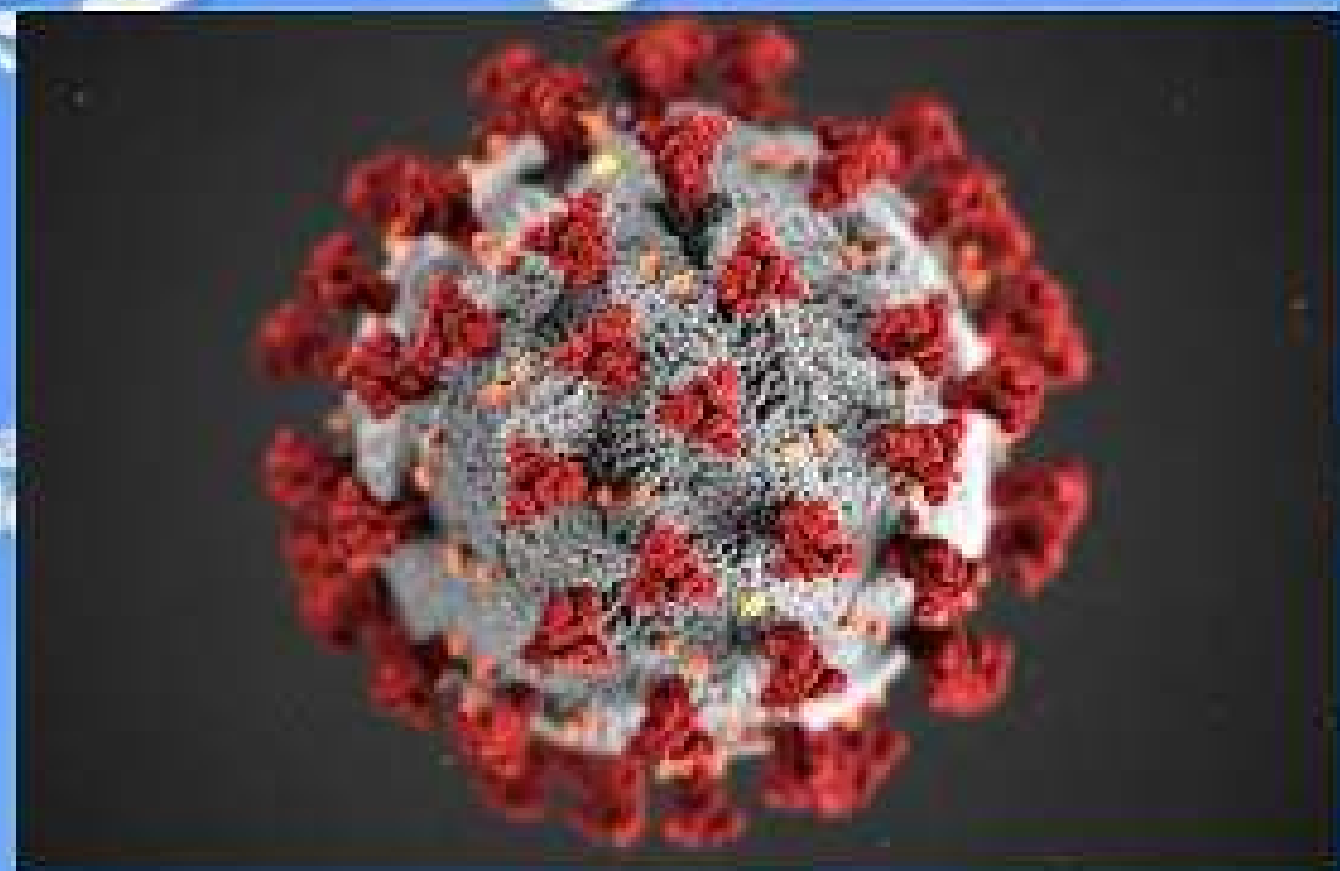
DOCTOR WHO



World Health Organization



World Health Organization



Organisa
mondial



Всемирная организация
здравоохранения

世界卫生组织

منظمة
الصحة العالمية



World Health Organization

World Health Organization

DOCTOR WHO

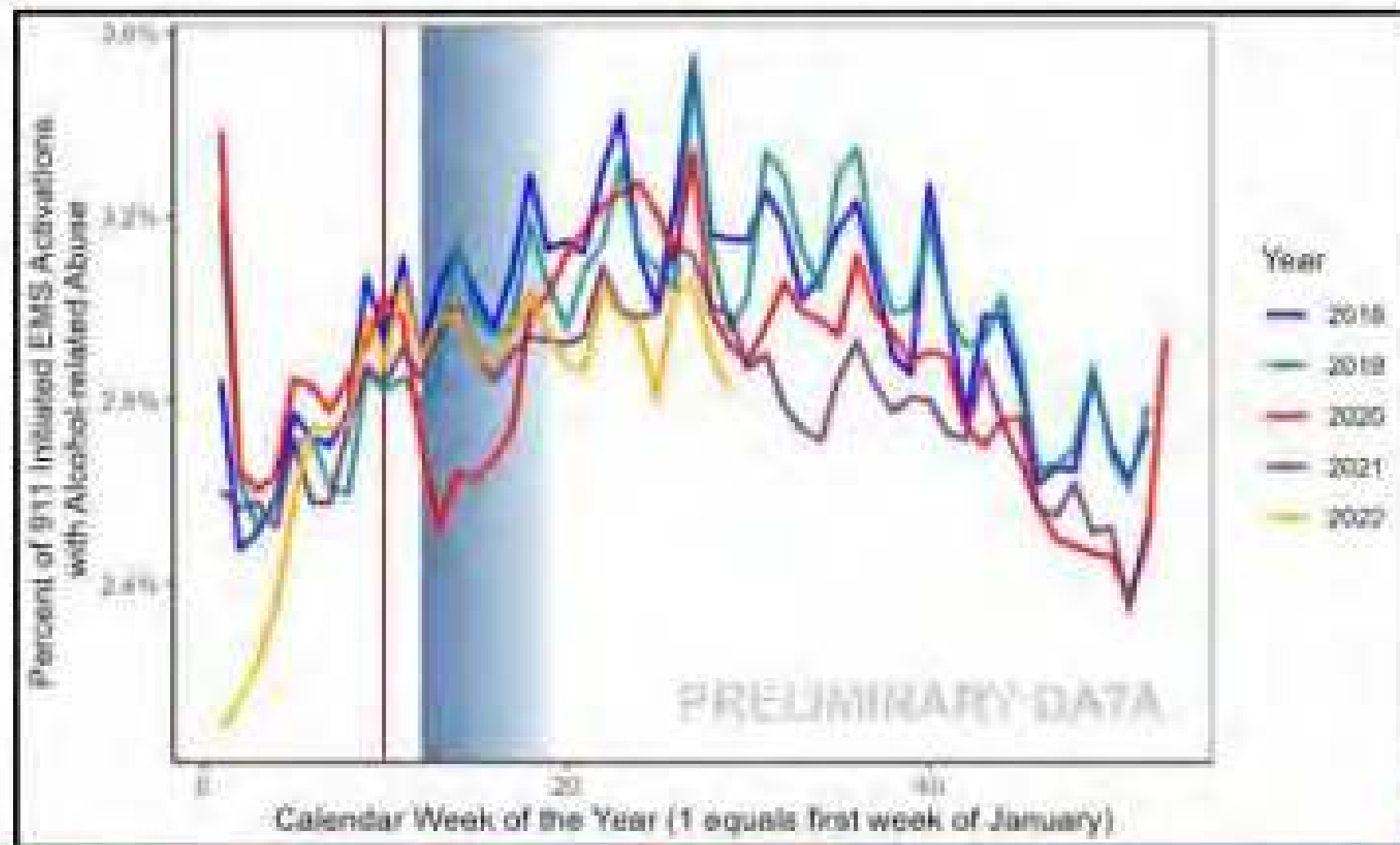
SPECIAL REPORT: HEROES OF THE FRONT LINES



Good data
tells a
story...

EMS BY THE NUMBERS: IMPACT OF COVID-19

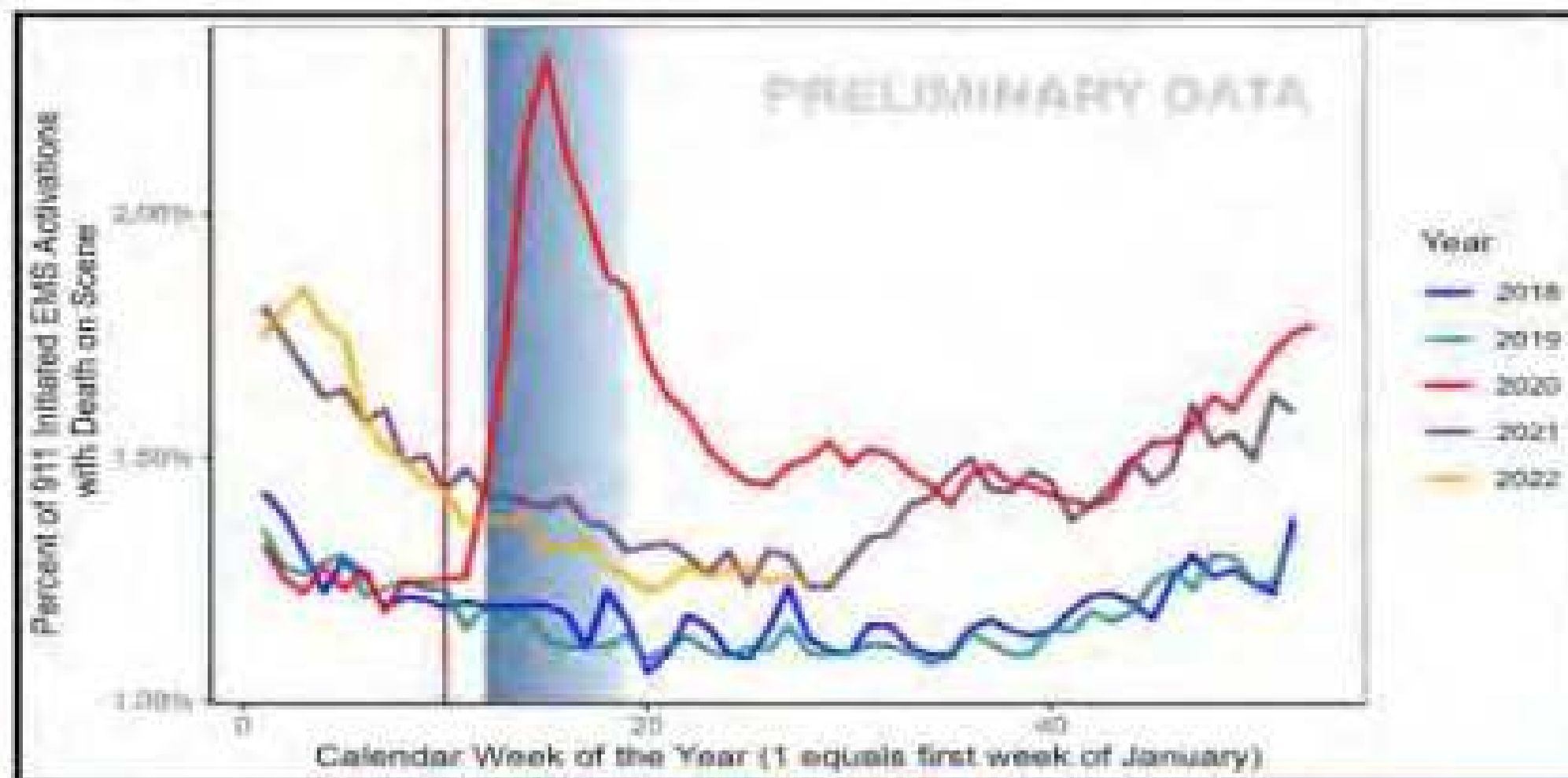
Rate of Alcohol-Related Activations



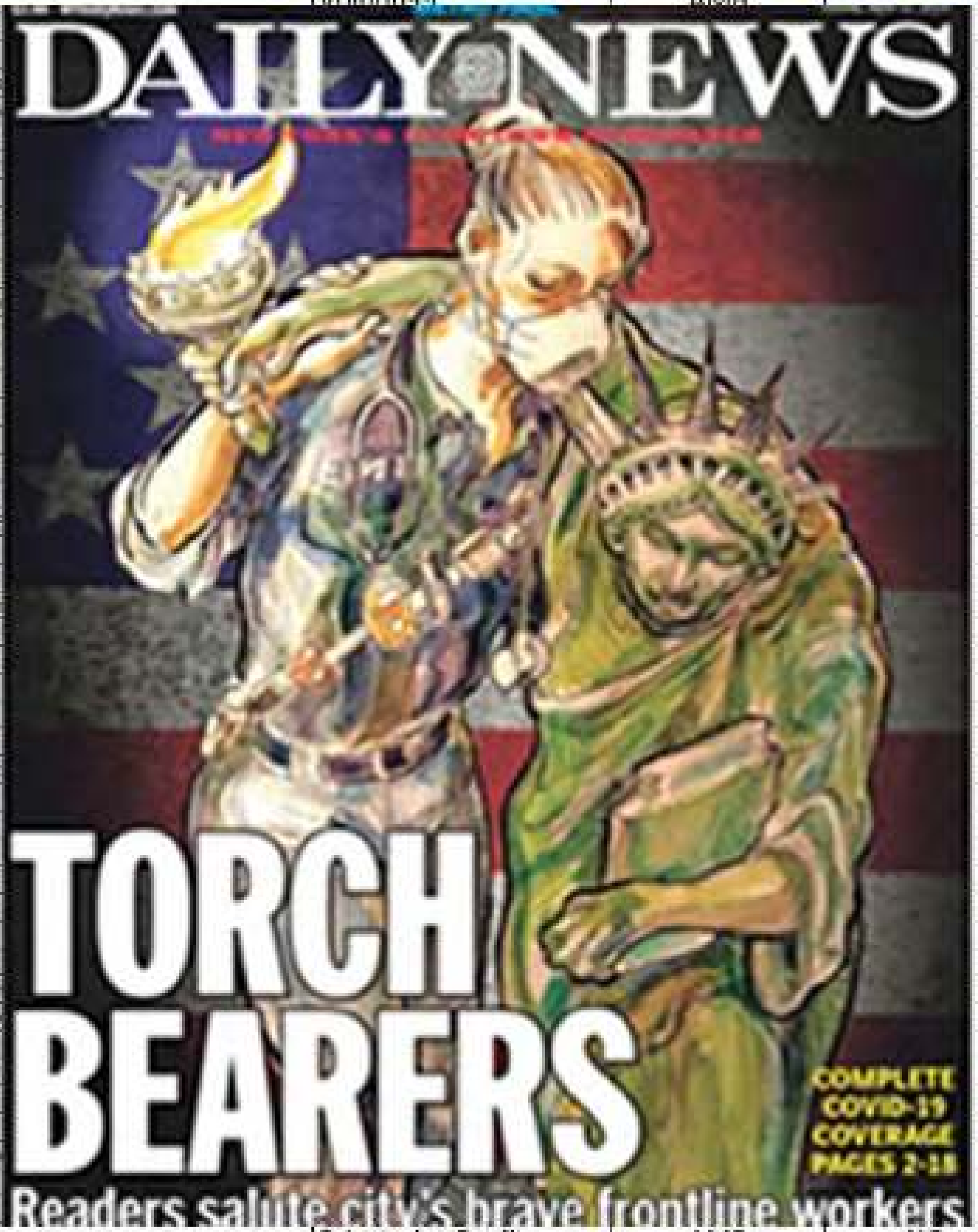
HOLD MY
BEER
AND
WATCH THIS

EMS BY THE NUMBERS: IMPACT OF COVID-19

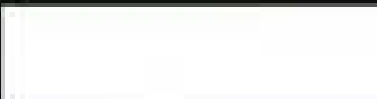
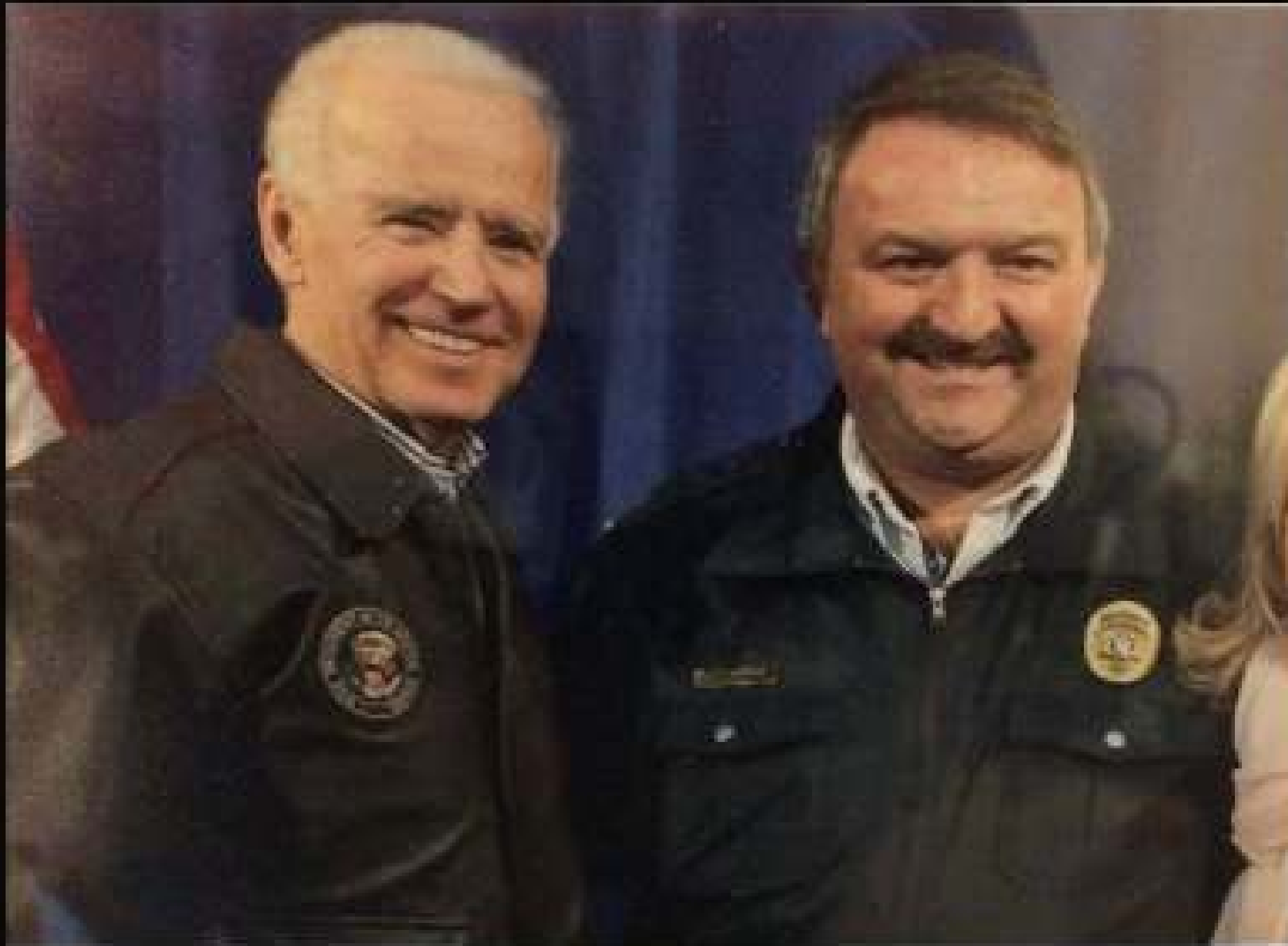
Rate of Scene Death Activations



B	C	D	E	F	G	H	I	J
First	Name	Ag	Grade	Stat	Org	Type	LODD / PSC	
Yakkov	Meltzer	64	PA	NY	Hatzolah of Queens	Volunteer	AMB	
Israel	Tolentino Jr	33	EMT	NJ	Passaic Fire Department			
Mike	Field	59		NY	Valley Stream FD			
Reuven	Morath	69	EMT	NJ	Hackensack Volunteer Ambulan			
Ruben	Rodriguez		EMT	NY	Ridgewood Volunteer Ambulan			
Liana	Rodriguez		EMT	NJ	Watchung Rescue Squad			
Roy	Coleman	64	EMT	LA	Overton Brooks VA Medical Cen			
Kevin	Leiva	74	FMT	NI	North Bergen EMS			
Frank	Molinari	70	MD	NJ	NUSEA EMS			
Paul	Novicki	51	Paramedic	MI	Rapid Response EMS			
Robert	Tarrant		RN	NJ	RWJBarnabas Health			
Solomon	Donald		FMT	NI	Trinitas Regional Medical Center			
Billy	Nauta	73	EMT	NJ	Atlantic Health			
John	Schoffstall	41	EMT	IN	Terre Haute Fire Department			
Kevin	Burdly	33	Paramedic	PA	Mercy Fitzgerald Hospital			
Billy	Birmingham		FMT	MO	KCFD			
Scott	Gelger		EMT	NJ	Atlantic Health			
Greg	Hodge	59	EMT	NY	FDNY			
Tony	Thomas		Paramedic	NY	Lutheran Medical Center			
John	Ferrarella		EMT	NJ	New Jersey Mobile Healthcare E			
Robert	Weber		EMT	NJ	Middletown FA&RS			
Robert	Zerman	49	EMT	PA	Pioneer Hose Company #1			
John	Carrecia		EMT	NJ	Woodbridge Township Ambulan			
Karl	Meeks		Paramedic	MN	Hennepin Healthcare EMS			
John	Redd	63	FMT	NY	FDNY			
Robert	Skeleton	48	Paramedic	AL	Care Ambulance			
Idris	Bey	60	EMT	NY	FDNY			
David	Martin		Paramedic	MS	AMR Nanchez			
Marlene	Picone		Dispatcher	NY	Maimonides Hospital Ambulan			
John	Mondello		EMT	NY	FDNY			
James	Villecco	55	Mechanic	NY	FDNY			
Richard	Seaberry	63	EMT	NY	FDNY			
David	Stone		EMT	NY	Nyack Hospital			
Robert	Reisinger	57	FF Paramedic	IL	River Grove Fire Department			
Paul	Cary	66	Paramedic	CO	Ambulanz			
Donald	DiPetrillo	70	FF Paramedic	FL	Seminole Fire Department			
Randall	French	Unk	Paramedic	NY	North Greenbush Ambulance A			
Sal	Mancuso	66	Driver	NY	Blooming Grove Volunteer Amb			
David	Pinto		EMT	NJ	NUSEA EMS			
Jeremy	Emerich		EMT	PA	Lehigh Valley Hospital Center M			
Hristos "Chris"	Vaporakis		Driver	NJ	Emerson Volunteer Ambulance			
Paul	Granger	22	FMT	SC	Vital Care EMS			
Glovis	Foster	54	Paramedic	NM	San Juan Regional Medical Cent			
William	Blackman		Paramedic	PA	AMR Philadelphia			
Alex	Cardenas	59	Paramedic	TX	Apollo Ambulance Service Inc			
Aldo	Iniguez		FMT	CA	CARE Ambulance (Falck USA)	Private for Profit	AMB	NO



FOUR WORDS...





	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																	
2	no	Rural	Vol	Pay	Resp Tim	Staffing	Cal Cert	APOT	388	Funding	Other	Headline	Url				
281	MI					Y					Legislation	3 Mich. groups ask lawmakers for \$20M to recruit, train at least 1,000 EMTs, medics	https://www.ems1.com/legislation/funding/articles/3-mich-groups-ask-lawmakers-for-20m-to-qualify-emts-1145-01-19-2020				
282	CA					Y		Y				COVID-19 Shows How Outdated EMS System Needs to Evolve	https://www.ems1.com/news/articles/covid-19-shows-how-outdated-ems-system-needs-to-evolve-1145-01-19-2020				
283	CA				Y	Y		Y				San Diego ambulance service impacted by COVID-19 surge	https://www.ems1.com/news/articles/san-diego-ambulance-service-impacted-by-covid-19-surge-1145-01-19-2020				
284	WA					Y						Local EMT trainers struggle to hang on	https://www.ems1.com/news/articles/local-emt-trainers-struggle-to-hang-on-1145-01-19-2020				
285	CA					Y		Y				COVID-19 Fatigue Impacting San Diego's Emergency Personnel	https://www.ems1.com/news/articles/covid-19-fatigue-impacting-san-diego-s-emergency-personnel-1145-01-19-2020				
286	ND					Y						Staff shortages impacting local emergency services and law enforcement	https://www.ems1.com/news/articles/staff-shortages-impacting-local-emergency-services-and-law-enforcement-1145-01-19-2020				
287	OH					Y						Rise departments struggle to staff Ambulance services take hard hit due to several personal losses	https://www.ems1.com/news/articles/rise-departments-struggle-to-staff-ambulance-services-take-hard-hit-due-to-several-personal-losses-1145-01-19-2020				
288	CA					Y						How staffing shortages are impacting San Diego's ambulance provider	https://www.ems1.com/news/articles/how-staffing-shortages-are-impacting-san-diego-s-ambulance-provider-1145-01-19-2020				
289	GA				Y			Y				Concerns about Grady EMS response times in Atlanta	https://www.ems1.com/news/articles/concerns-about-grady-ems-response-times-in-atlanta-1145-01-19-2020				
290	OK					Y						Cherokee Nation to travel \$54M to improve ambulance response times	https://www.ems1.com/news/articles/cherokee-nation-to-travel-54m-to-improve-ambulance-response-times-1145-01-19-2020				
291	SD				Y							Medical director rebuts emergency response claims	https://www.ems1.com/news/articles/medical-director-rebuts-emergency-response-claims-1145-01-19-2020				
292	WV	Y				Y				Y	Legislation	W.Va. to give \$10M to EMS agencies amid staffing shortages	https://www.ems1.com/legislation/funding/articles/w-v-a-to-give-10m-to-ems-agencies-amid-staffing-shortages-1145-01-19-2020				
293	MS				Y	Y						Mississippi ambulance providers fear a system collapse is near	https://www.ems1.com/news/articles/mississippi-ambulance-providers-fear-a-system-collapse-is-near-1145-01-19-2020				
294	AL					Y				Closeure / Drudge Repo		Smiths Station Fire & Rescue suspends ambulance service indefinitely	https://www.ems1.com/news/articles/smiths-station-fire-&-rescue-suspends-ambulance-service-indefinitely-1145-01-19-2020				
295	MI				Y	Y						Ambulance response times in Farmington average 58 minutes	https://www.ems1.com/news/articles/ambulance-response-times-in-farmington-average-58-minutes-1145-01-19-2020				
296	CO					Y						Learning to save lives at The Denver Health train to become EMTs amid COVID-19 shortage	https://www.ems1.com/news/articles/learning-to-save-lives-at-the-denver-health-train-to-become-emts-amid-covid-19-shortage-1145-01-19-2020				
297	NC					Y						COVID-19 surge strains emergency operations in Pender, strike teams called in	https://www.ems1.com/news/articles/covid-19-surge-strains-emergency-operations-in-pender-strike-teams-called-in-1145-01-19-2020				
298	OH					Y						Staff shortages lead to long hours for private EMTs	https://www.ems1.com/news/articles/staff-shortages-lead-to-long-hours-for-private-emts-1145-01-19-2020				
299	TX					Y						Wilson County Emergency Management employees plead for support amid staffing shortage	https://www.ems1.com/news/articles/wilson-county-emergency-management-employees-plead-for-support-amid-staffing-shortage-1145-01-19-2020				
300	OH					Y				Y		Staff shortages lead to long hours for private EMTs	https://www.ems1.com/news/articles/staff-shortages-lead-to-long-hours-for-private-emts-1145-01-19-2020				
301	CT					Y					FEHA TF	FEHA Provides Ambulances to Danbury (CT) Hospital	https://www.ems1.com/salary/articles/feha-agency-uses-starting-emp-pay-by-nearly-20-1145-01-19-2020				
302	IA						Y				Divisions due to Covid	COVID-19 strains emergency departments, prompting ambulance diversions	https://www.ems1.com/news/articles/covid-19-strains-emergency-departments-prompting-ambulance-diversions-1145-01-19-2020				
303	IL					Y				Y	Need Gov't Funding	Street council will lead care allocation regarding ambulance service	https://www.ems1.com/news/articles/street-council-will-lead-care-allocation-regarding-ambulance-service-1145-01-19-2020				
304	WA					Y				Y	Legislation	You could be voting on an emergency medical services renewal very soon	https://www.ems1.com/news/articles/you-could-be-voting-on-an-emergency-medical-services-renewal-very-soon-1145-01-19-2020				
305	PA					Y				Y	Legislation	Bill creating \$25M grant program for EMS agencies on its way to governor to sign	https://www.ems1.com/legislation/funding/articles/bill-creating-25m-grant-program-for-ems-agencies-on-its-way-to-governor-to-sign-1145-01-19-2020				
306	WI					Y				Y	Legislation	Bill seeks more aid for EMS providers	https://www.ems1.com/legislation/funding/articles/bill-seeks-more-aid-for-ems-providers-1145-01-19-2020				
307	MI					Y				Y	Legislation	Proposed Mich. budget includes \$97M to retain first responders	https://www.ems1.com/legislation/funding/articles/proposed-mich-budget-includes-97m-to-retain-first-responders-1145-01-19-2020				
308	NC											EMS needs more parameters to keep ambulances rolling	https://www.ems1.com/news/articles/ems-needs-more-parameters-to-keep-ambulances-rolling-1145-01-19-2020				
309	MN					Y						Minnesota EMS workers demand a decrease for emergency services charges	https://www.ems1.com/news/articles/minnesota-ems-workers-demand-a-decrease-for-emergency-services-charges-1145-01-19-2020				
310	MA				Y	Y					Sweeps Story?	Delayed: Ambulance Response Times Suffer From EMS Worker Shortage	https://www.ems1.com/news/articles/delayed-ambulance-response-times-suffer-from-ems-worker-shortage-1145-01-19-2020				
311	CA				Y						Fire Take Over	Without a clear path, Santa Rosa will remain with Sonoma County's ambulance provider but seek help	https://www.ems1.com/news/articles/without-a-clear-path-santa-rosa-will-remain-with-sonoma-county-s-ambulance-provider-but-seek-help-1145-01-19-2020				
312	WI					Y				Y	Legislation	Wis. governor allocates \$27M to aid state EMS agencies	https://www.ems1.com/legislation/funding/articles/wis-governor-allocates-27m-to-aid-state-ems-agencies-1145-01-19-2020				
313	CO					Y						Colo. ends 'crisis' care that gave cover to hospitals, EMS stretched by COVID	https://www.ems1.com/news/articles/colo-ends-crisis-care-that-gave-cover-to-hospitals-ems-stretched-by-covid-1145-01-19-2020				
314	NI					Y				Y	Legislation / Funding	N.I. bill would increase EMS donation caps by \$55K	https://www.ems1.com/legislation/funding/articles/n-i-bill-would-increase-ems-donation-caps-by-55k-1145-01-19-2020				
315	CO					Y						Colo. ends 'crisis' care that gave cover to hospitals, EMS stretched by COVID	https://www.ems1.com/news/articles/colo-ends-crisis-care-that-gave-cover-to-hospitals-ems-stretched-by-covid-1145-01-19-2020				
316	CA					Y					Control of system	Chgo council holds off on delving into ambulance services	https://www.ems1.com/news/articles/chgo-council-holds-off-on-delving-into-ambulance-services-1145-01-19-2020				
317	PA					Y					Gov't funding sales tax	Mercer EMS providers in crisis mode, ambulance shortage becoming more severe	https://www.ems1.com/news/articles/mercer-ems-providers-in-crisis-mode-ambulance-shortage-becoming-more-severe-1145-01-19-2020				
318	NY	Y										3 towns mail creation of joint EMS agency in N.Y., Mass.	https://www.ems1.com/news/articles/3-towns-mail-creation-of-joint-ems-agency-in-n-y-mass-1145-01-19-2020				
319	CT				Y							State Reports Show EMS Response Times Double	https://www.ems1.com/news/articles/state-reports-show-ems-response-times-double-1145-01-19-2020				
320	CA					Y					Strike Teams	Team 10 Investigation: Were ambulance strike teams used efficiently?	https://www.ems1.com/news/articles/team-10-investigation-were-ambulance-strike-teams-used-efficiently-1145-01-19-2020				
321	MA					Y					Education	Mass.-based transport firm creates \$1M Paramedic Training School scholarship program	https://www.ems1.com/news/articles/mass-based-transport-firm-creates-1m-paramedic-training-school-scholarship-program-1145-01-19-2020				
322	IL					Y					Wages	Polk County addressing paramedic shortage with \$1.2 million recruitment plan	https://www.ems1.com/news/articles/polk-county-addressing-paramedic-shortage-with-1-2-million-recruitment-plan-1145-01-19-2020				
323	CA					Y					Wages	Ambulance workers in L.A. and Orange counties protest for higher wages	https://www.ems1.com/news/articles/ambulance-workers-in-l-a-and-orange-counties-protest-for-higher-wages-1145-01-19-2020				
324	CA											Carla Ambulance drivers protest low wages in Southern California health care workers protest	https://www.ems1.com/news/articles/carla-ambulance-drivers-protest-low-wages-in-southern-california-health-care-workers-protest-1145-01-19-2020				

State Association Forum

American Ambulance Association State Association
Last updated on Aug 1

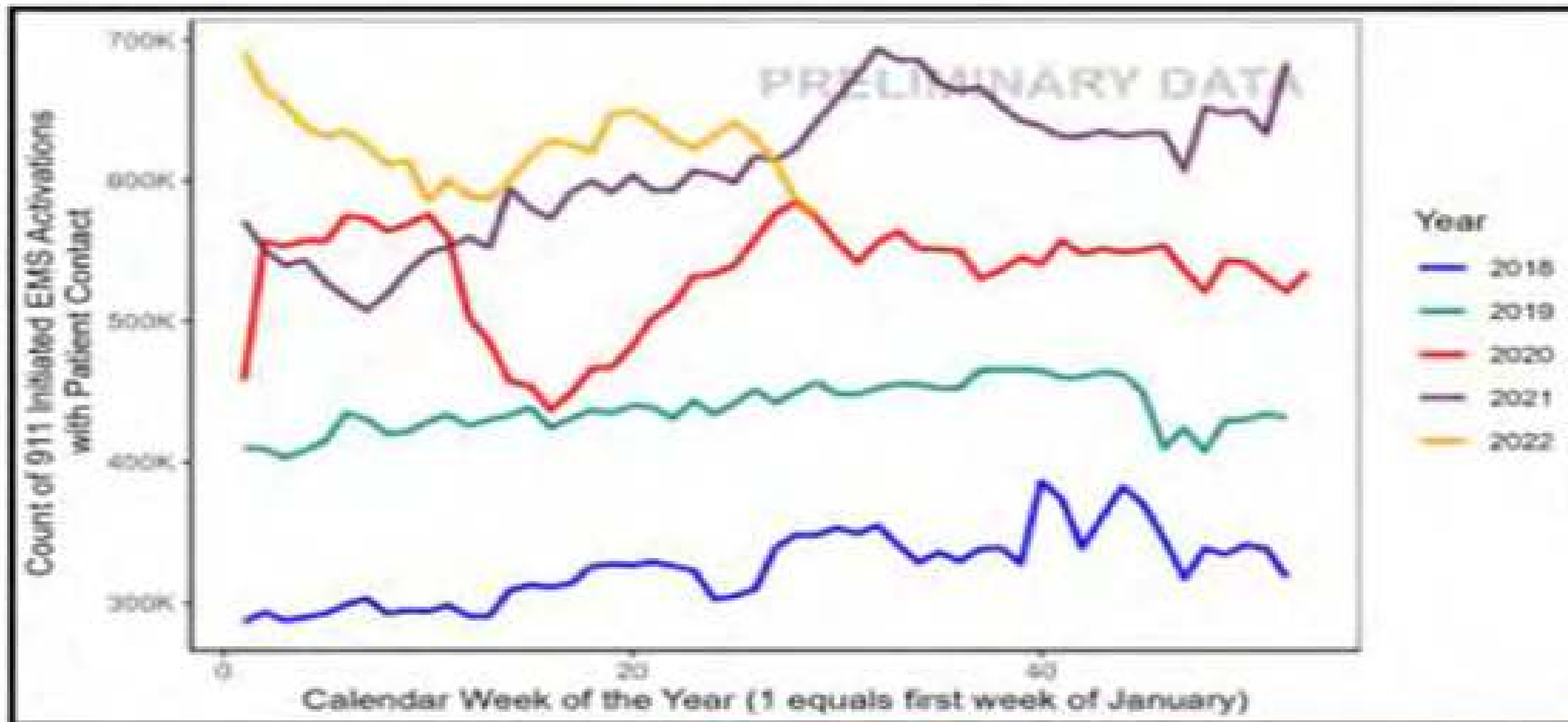


Board, Govt Affairs, Coronavirus Response

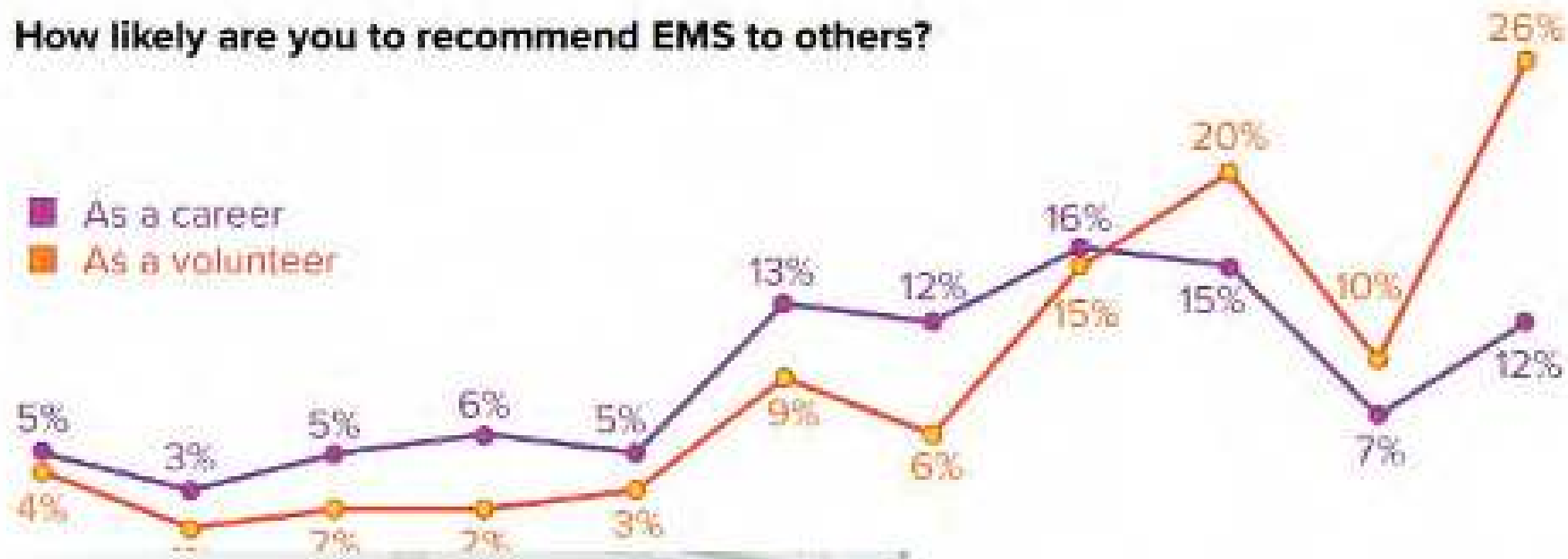
Last updated on Jul 12



Count of EMS Activations



How likely are you to recommend EMS to others?



EMS 1

FITCH
A PART OF

WHAT PARAMEDICS WANT IN 2022

3,213 EMS providers speak up about job satisfaction, effective leadership, safety and innovation in the EMS Trend Survey



Extremely likely

Please rate the state of EMS provider recruitment and retention in your organization

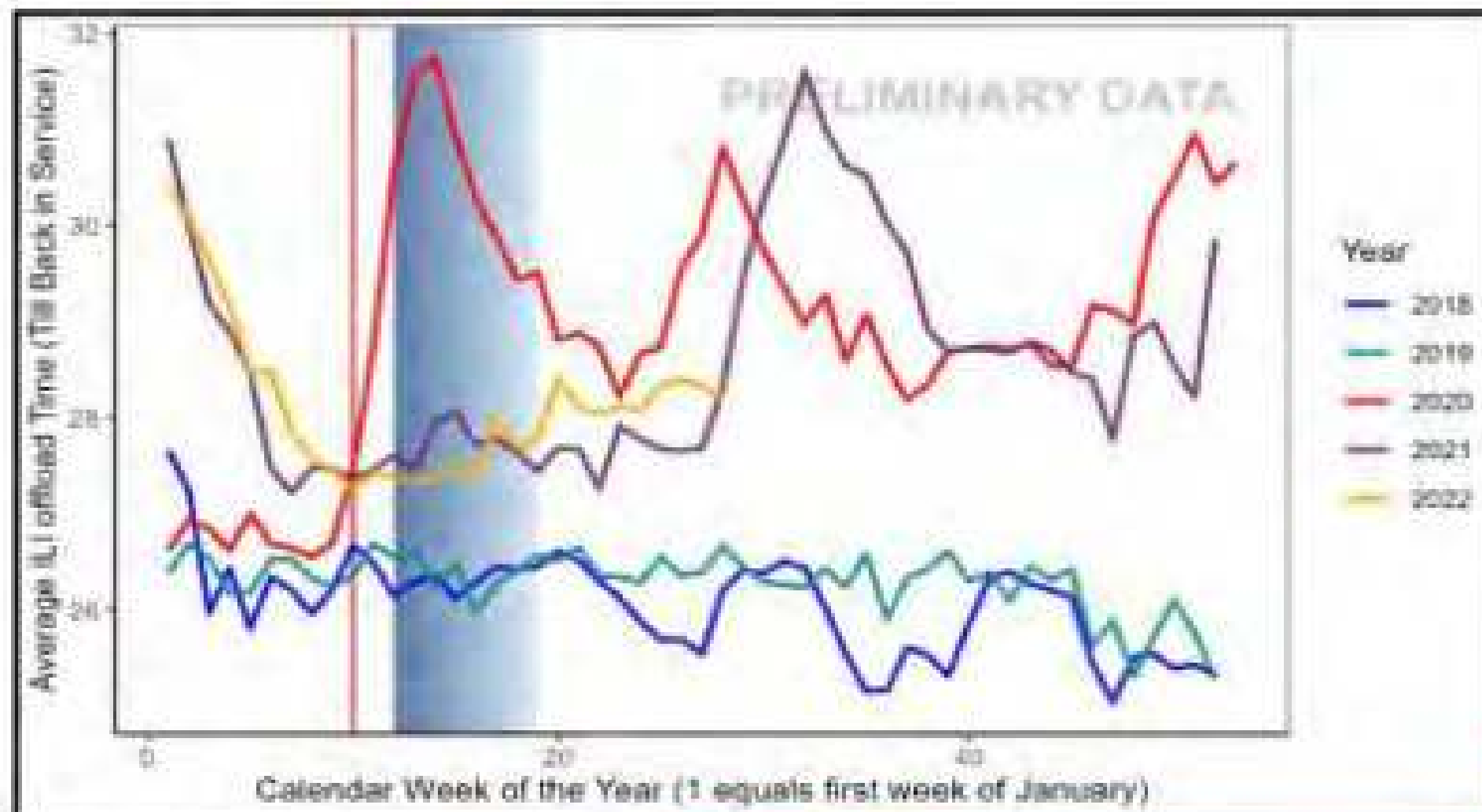


Ambulance Cost Data Collection



EMS BY THE NUMBERS: IMPACT OF COVID-19

Average ILI Offload Time



Offload Wars!



Rob Lawrence

EMS One-stop

Ambulances held hostage: Overcoming hospital bed delays

Steve Wirth and Doug Wolfberg join host Rob Lawrence to discuss strategies for overcoming hospital bed delays

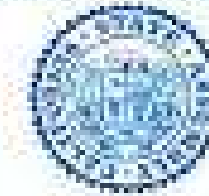
Dec 9, 2021



Vice-Chair
Sylvia Kelly

Members
Agate County, Crista M.
Del Norte, Lisa
Colingale, James
City, Adam C.
North, Christopher M.

California State Assembly
EMERGENCY MANAGEMENT



FREDDIE RODRIGUEZ
CHAIR

AGENDA

Wednesday, January 13, 2022
12:00 p.m. — State Capitol, Room 407

Chief Consultant
Mike Capron

Consultant
Ryan Fanning

Committee Secretary
Tajiri Gonzalez

1800 N Street, Room 5801
(916) 228-0800
FAX: (916) 319-0819

Committee on Emergency Management:
The Impact of Ambulance Patient Offload Delays on Emergency Response

First Panel: Operational Perspectives and Potential Solutions

Director Cathy Chidester, Emergency Medical Services Agency Director, Los Angeles County

Chief Ray Gayk, Fire Chief of Ontario Fire Department and President of the California Fire Chiefs Association

Chief David Williams, Chico Valley Fire District

SURGEON GENERAL'S WARNING:
May Contain Carfentanyl
and err...Some Peanuts

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and err...Some Peanuts

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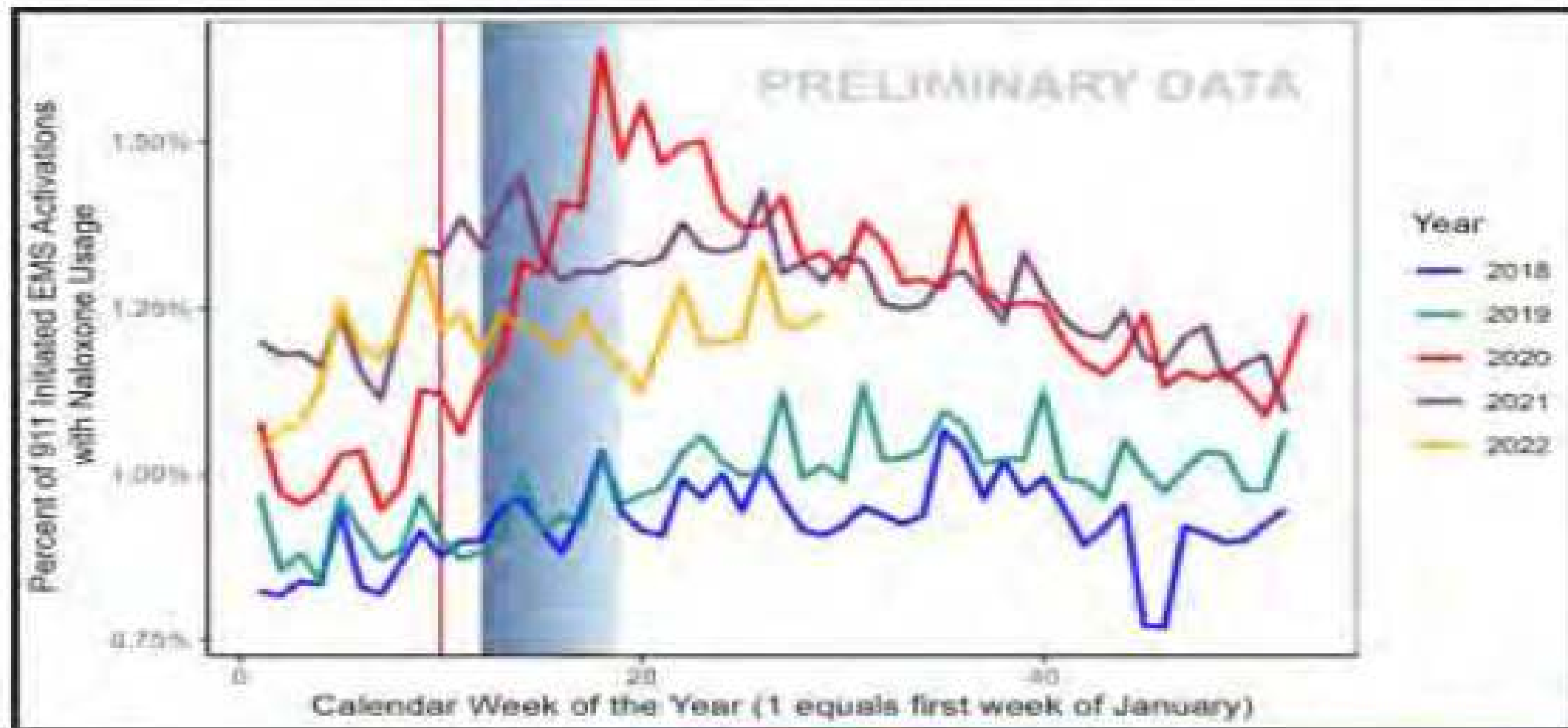
SURGEON GENERAL'S WARNING:
May Contain Carfentanyl
and err...Some Peanuts

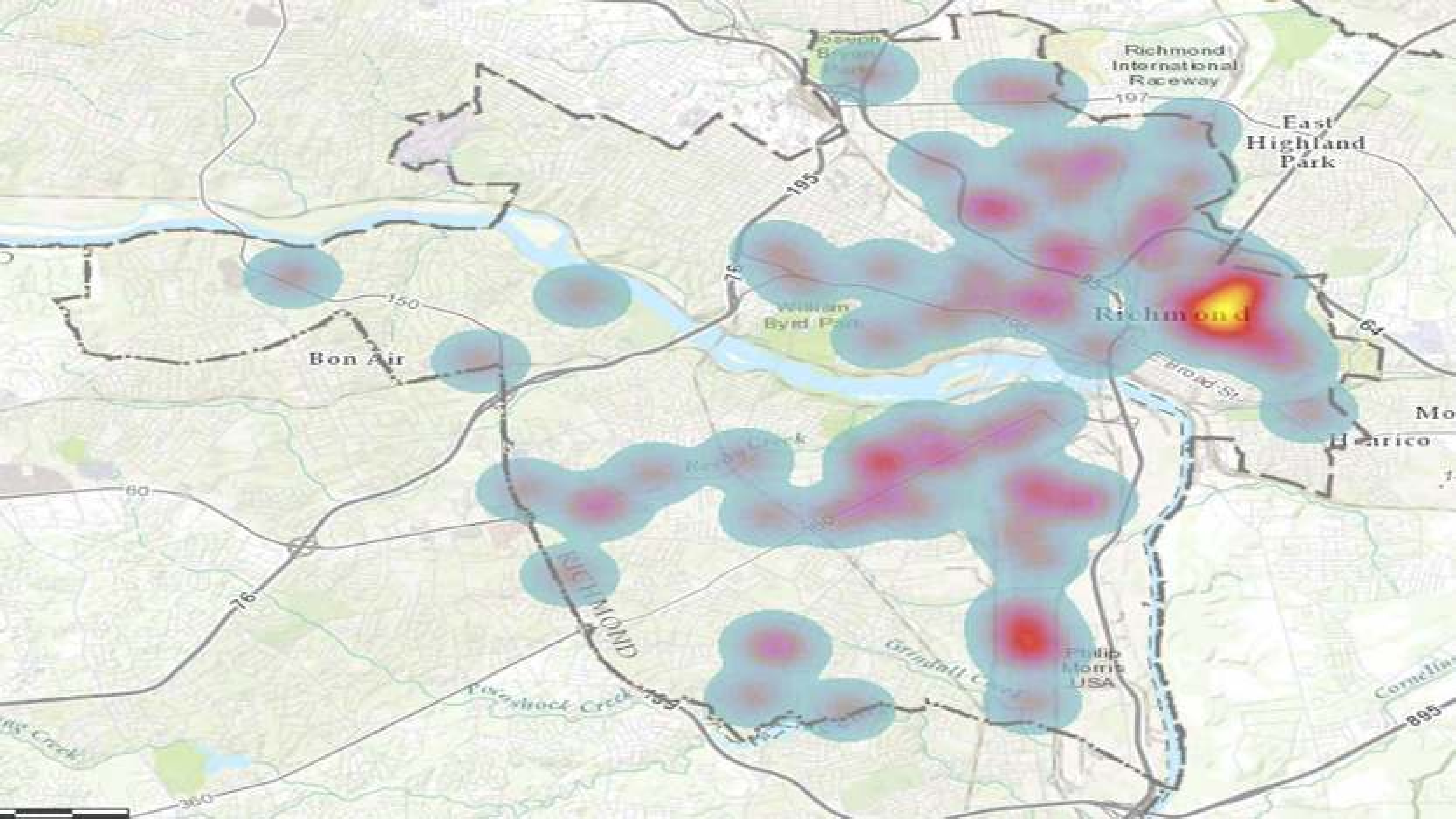
SURGEON GENERAL'S WARNING:
May Contain Carfentanyl
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SURGEON GENERAL'S WARNING:
May Contain Carfentanyl
and err...Some Peanuts

SURGEON GENERAL'S WARNING:
May Contain Carfentanyl
and err...Some Peanuts

Rate of Activations with Naloxone





Richmond International Raceway

East Highland Park

Richmond

Bon Air

William Byrd Park

Henrico

Philip Morris USA

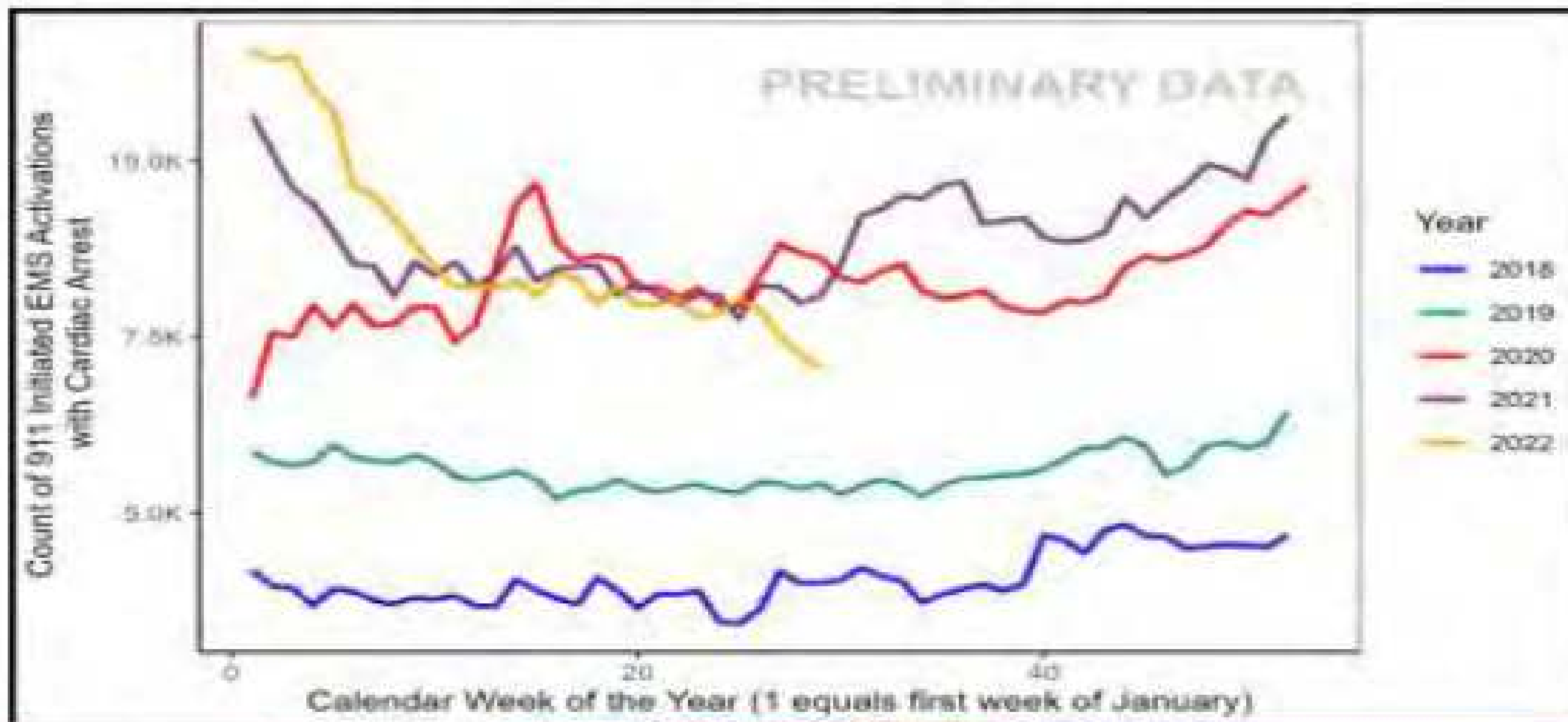
RICHMOND

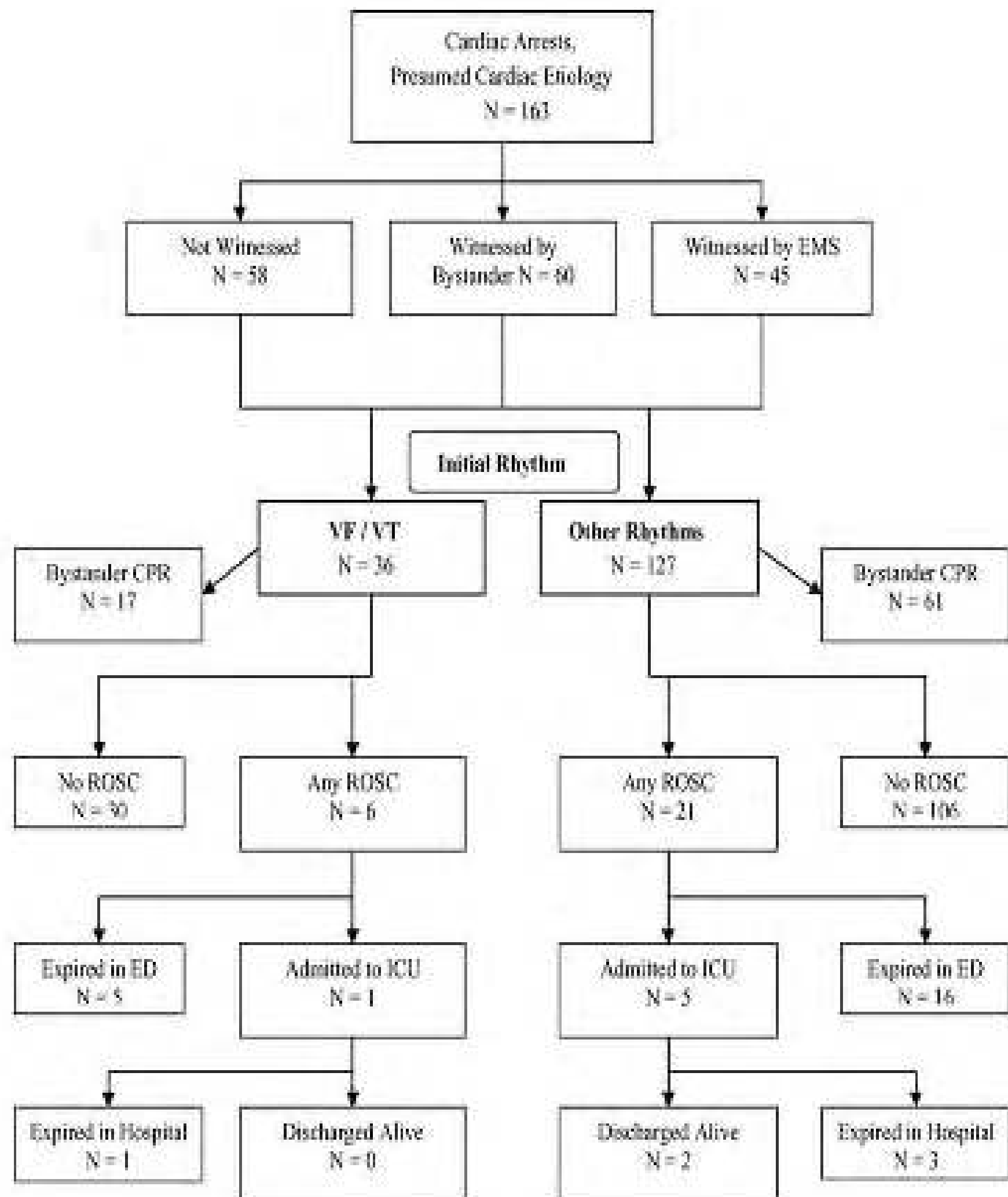
Two-Stock Creek

Grindall Creek

Cornell

Count of Cardiac Arrest Activations





> JAMA. 1979 May 4;241(18):1905-7. doi: 10.1001/jama.241.18.1905.

Cardiac resuscitation in the community. Importance of rapid provision and implications for program planning

M S Eisenberg, L Bergner, A Hallstrom

PMID: 430772 DOI: 10.1001/jama.241.18.1905

If CPR was initiated within four minutes and if definitive care was provided within eight minutes, 43% of patients survived. If either time was exceeded, the changes of survival fell dramatically.

County Supervisors Talk Response Times, Contract Bid Timeline for Ambulance Services

■ Performance Objectives

- Alarm Answering Time
 - 15 sec 95%
 - 40 sec 99%
- Alarm Processing Time
 - 64 sec 90%
 - 106 sec 95%
- Turnout Time –
 - 60 sec EMS
 - 80 sec Fire
- First Engine Arrive on Scene Time
 - 240 sec (4 min)
- Initial Full Alarm (Low and Medium Hazard) Time
 - 480 sec (8 min)
- Initial Full Alarm – High Hazard/ High-Rise Time
 - 610 sec (10 min 10 sec)



Figure 1: Response Time Compliance Requirements Summary

Priority Level	Compliance	Urban	Rural	Wilderness
Priority 1	90%	7 min. 59 sec.	14 min. 59 sec.	30 min. 59 sec.
Priority 2	90%	10 min. 59 sec.	17 min. 59 sec.	40 min. 59 sec.
Priority 3	90%	14 min. 59 sec.	20 min. 59 sec.	40 min. 59 sec.
Priority 4	90%	No greater than 89 min. 59 sec from time of request	N/A	N/A
Priority 5	90%	<p><u>Greater than 24-hours:</u> No greater than 14 min. 59 sec of scheduled pick-up time</p> <p><u>Less than 24-hours:</u> No greater than 44 min. 59 sec of scheduled pick-up time</p>	N/A	N/A
Priority 6	90%	Within 14 min. 59 sec of scheduled pick-up time	N/A	N/A
Priority 7	90%	29 min. 59 sec	N/A	N/A

NFPA Standard 1710

Using Red Lights and Sirens for Emergency Ambulance Response: How Often Are Potentially Life-Saving Interventions Performed?

Jeffrey L. Jarvis , MD , Vaughn Hamilton, MA, EMT-P, Mike Taigman, MA & Lawrence H. Brown, PhD 



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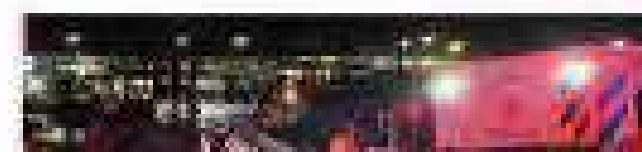
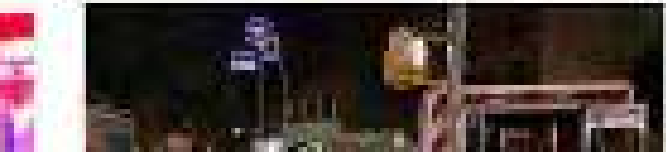
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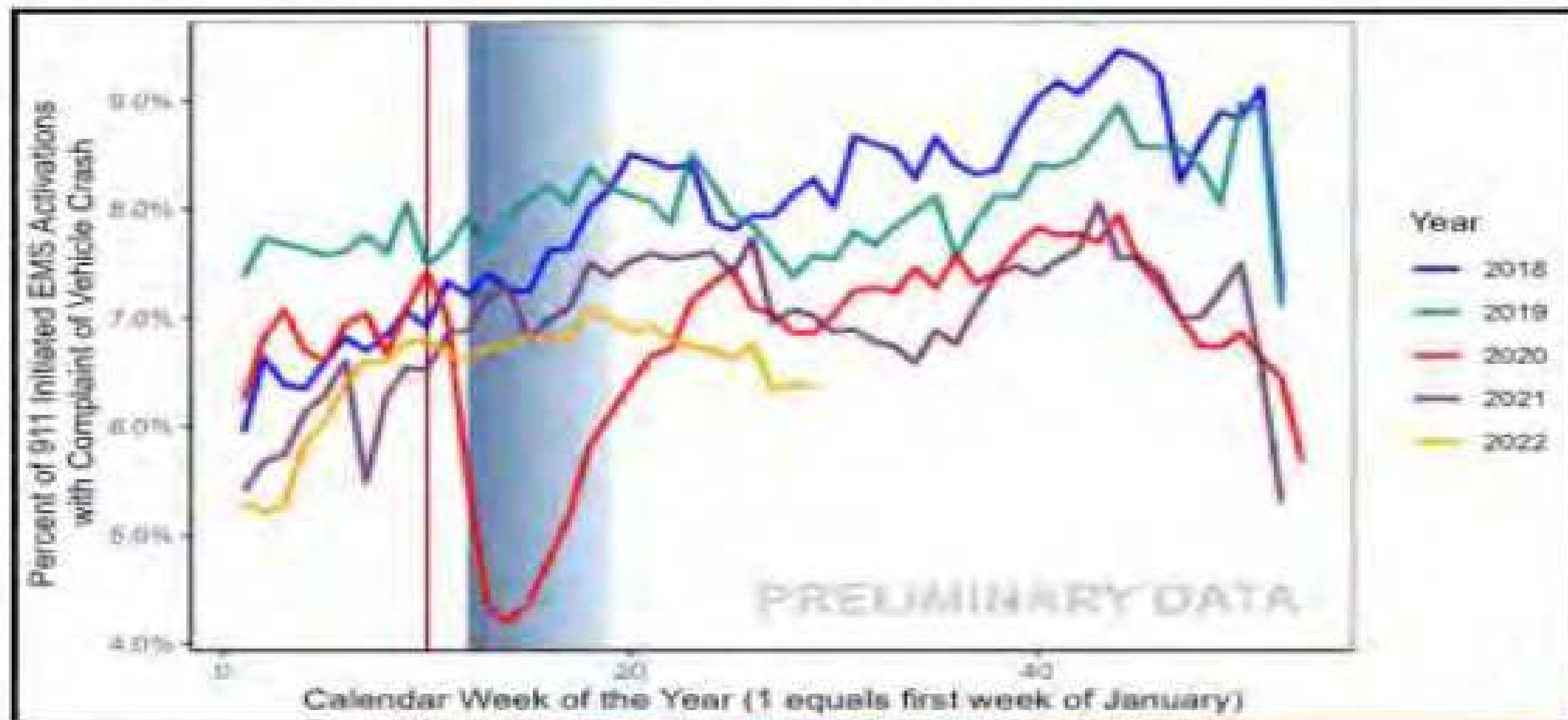
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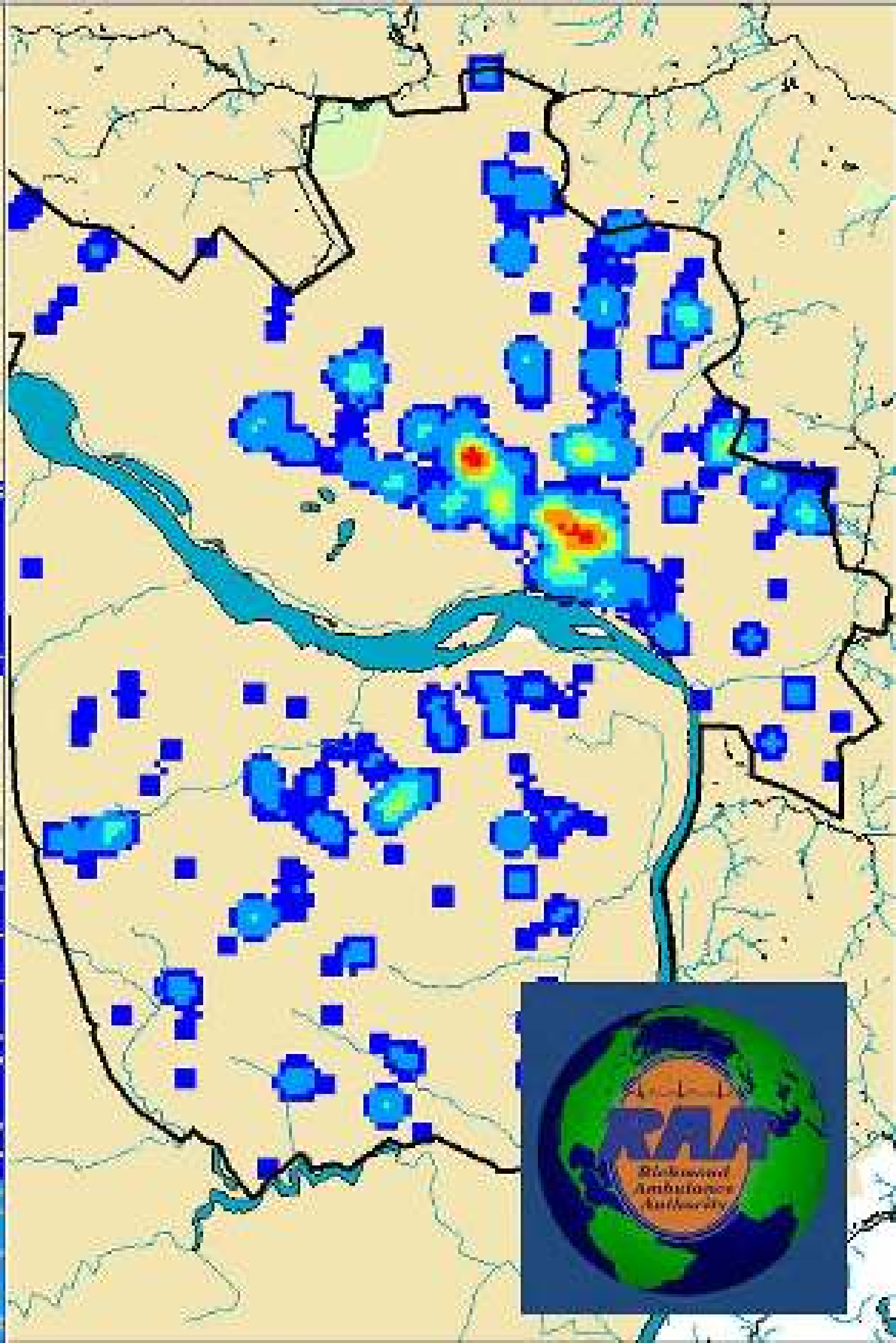
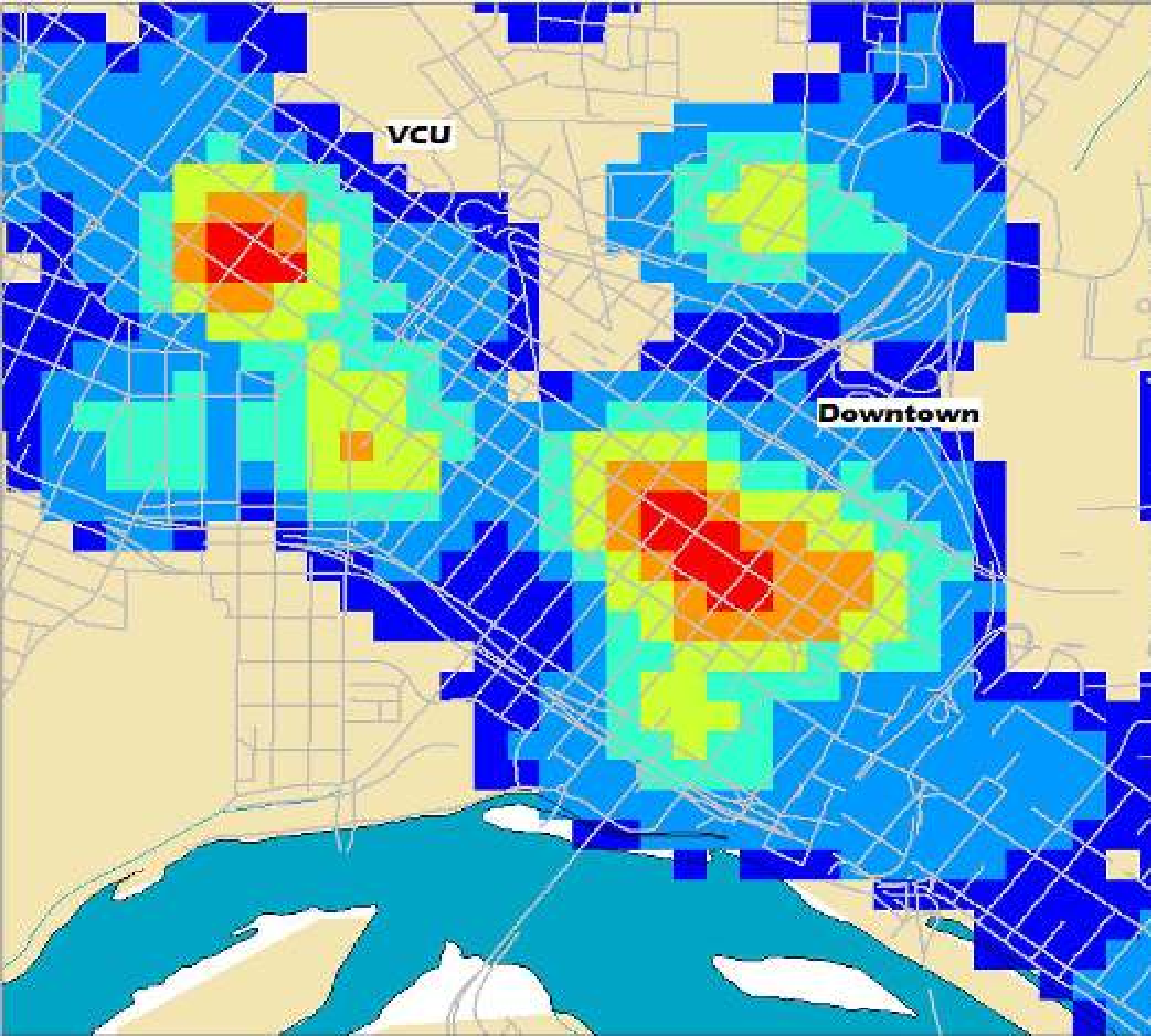


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Rate of Vehicle Crash Activations







Root Cause....



Data and its intelligence products will bail us out and save the day!

Rob Lawrence

Pro EMS

Prodigy EMS

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