

# Recovery: Long Haulers, Loss, and Caregivers

## *A Survive & Thrive Guide™*



### **PACS**

**Post-Acute COVID-19 Syndrome**

### **MIS-C**

**Multisystem Inflammatory  
Syndrome in Children**

### **MIS-A**

**Multisystem Inflammatory  
Syndrome in Children**

# Welcome



## **Charles Denham, MD**

Chairman, TMIT Global  
Founder Med Tac Bystander Rescue Care

**Med Tac Bystander Rescue Care  
May 6, 2021**

***CareUniversity* Webinar 158**



## Our Purpose, Mission, and Values



### Our Purpose:

We will measure our success by how **we protect and enrich the lives of families...patients AND caregivers.**

**EMERGING THREATS  
COMMUNITY OF PRACTICE**

### Our Mission:

To accelerate performance solutions that **save lives, save money, and create value** in the communities we serve and ventures we undertake.

**CAREUNIVERSITY®**

### Our **ICARE** Values:

**Integrity, Compassion, Accountability, Reliability, and Entrepreneurship.**



### Disclosure Statement

The following panelists certify that unless otherwise noted below, each presenter provided full disclosure information; does not intend to discuss an unapproved/investigative use of a commercial product/device; and has no significant financial relationship(s) to disclose. If unapproved uses of products are discussed, presenters are expected to disclose this to participants. None of the participants have any relationship pharmaceutical or device companies discussed in their presentations. The funding of the program is from the Denham Family fund of TMIT Global, a 501c3 Medical Research Organization

- Gregory H. Botz, MD, FCCM, has nothing to disclose.
- Dr. Von Maszewski to disclose.
- William Adcox has nothing to disclose.
- Jennifer Dingman has nothing to disclose.
- Heather Foster has nothing to disclose.

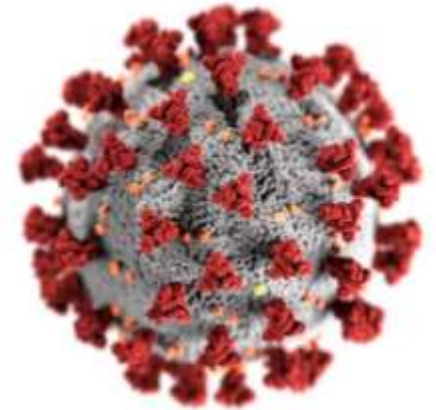
Charles Denham, MD, is the Chairman of TMIT Global; a former TMIT education grantee of CareFusion and AORN with co-production by Discovery Channel for *Chasing Zero* documentary and Toolbox including models; and an education grantee of GE with co-production by Discovery Channel for *Surfing the Healthcare Tsunami* documentary and Toolbox, including models. HCC is a former contractor for GE and CareFusion, and a former contractor with Siemens and Nanosonics, which produces a sterilization device, Trophon. HCC is a former contractor with Senior Care Centers. HCC is a former contractor for ByoPlanet, a producer of sanitation devices for multiple industries. He does not currently work with any pharmaceutical or device company. His current area of research is in threat management to institutions including conflict of interest, healthcare fraud, and continuing professional education and consumer education including bystander care. Dr. Denham is the developer and producer of CareUniversity™, the learning management system providing continuing education materials for TMIT Global.

## ***Voice of the Patient***



### **Jennifer Dingman**

**Founder, Persons United Limiting  
Substandard and Errors in Healthcare  
(PULSE), Colorado Division  
Co-founder, PULSE American Division  
TMIT Patient Advocate Team Member  
Pueblo, CO**



## Speakers & Reactors



Dr. Gregory Botz



Dr. Von-Maszewski



Dr. Brittney Barto-Owens



Jennifer Dingman



Heather Foster RN

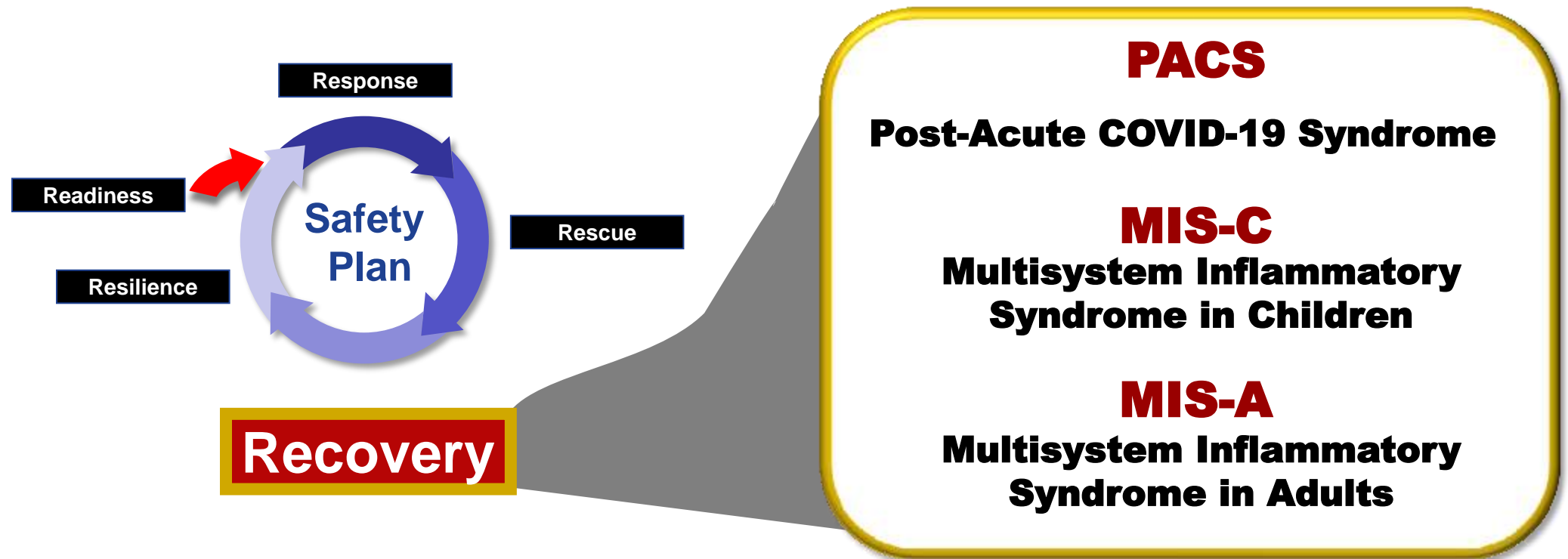


William Adcox



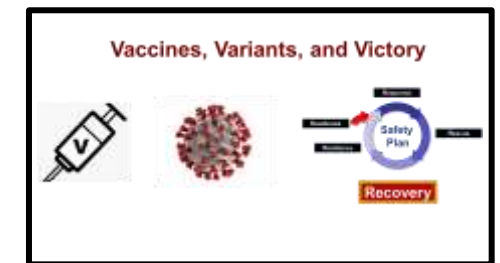
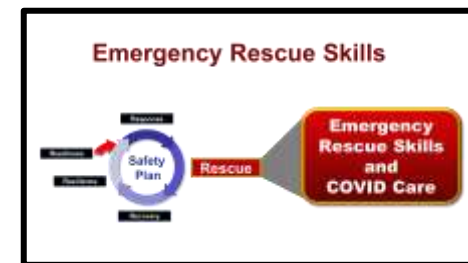
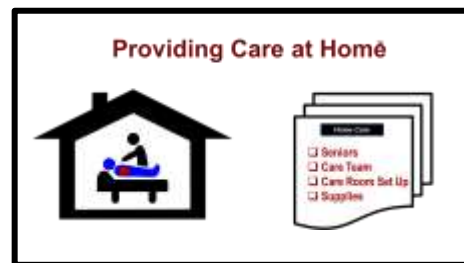
Dr. Charles Denham

## Recovery: Long Haulers, Loss, and Caregivers





## Survive & Thrive Guide™ Program Road Map



**May Webinar**



# ***Three Big Lifesaving Opportunities***

***Save Lives Now***

***The New Normal***



***The Reopening Bridge  
to The New Normal***

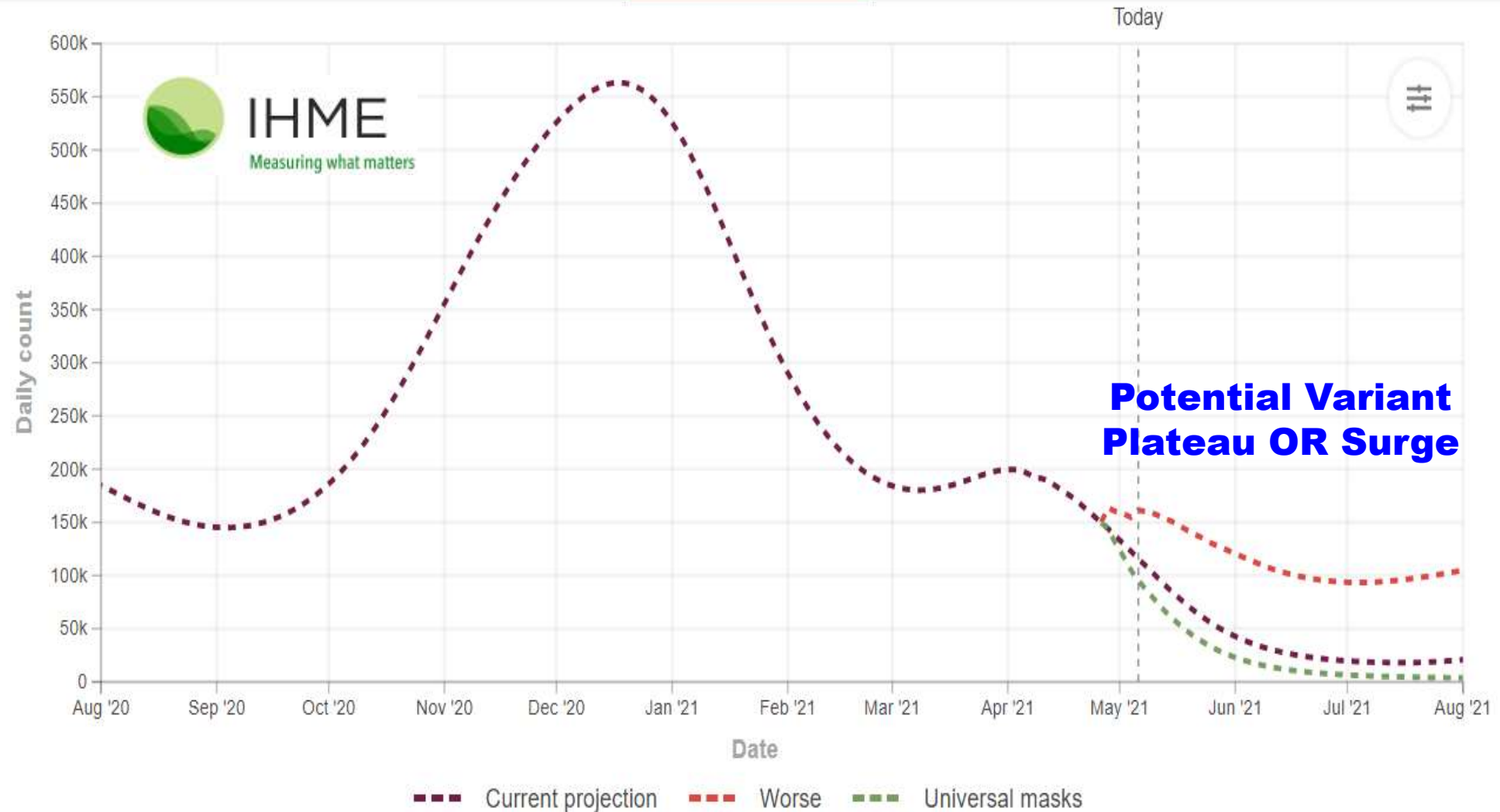
Total deaths

Daily deaths

Infections and testing

Mask use

Social distancing







# High Impact Care Hazards to Patients, Students, and Employees



Cardiac Arrest

Choking & Drowning

Opioid Overdose

Anaphylaxis

Major Trauma

Infections

Transportation Accidents

Bullying

Med Tac  
Story Article



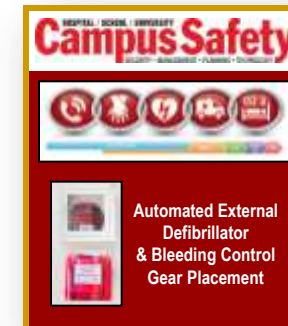
Active Shooter  
Healthcare Article



Rapid Response  
Teams Article



AED & Bleeding  
Control Gear Article



Family Safety  
Plan Article



A **Medical-Tactical Approach** undertaken by clinical and non-clinical people can have enormous impact on loss of life and harm from very common hazards:

- **High Impact Care Hazards** are frequent, severe, preventable, and measurable.
- **Lifeline Behaviors** undertaken by anyone can save lives.

**Supports  
today's webinar**




## **TMIT Global Research Test Bed**

**3,100 Hospitals in 3,000 Communities**

**500 Subject Matter Expert Pool Developed over 35 Years**





# **500 Subject Matter Experts**

Graphic Representation to Protect Expert Privacy





# Coronavirus Care Community of Practice

# Bystander Rescue Care *CareUniversity Series*



John Nance JD



Dr. Gregory Botz



Chief William Adcox



Heather Foster



Dr. Charles Denham



Dr. Casey Clements



Beth Ullem



Dr. McDowell



Dennis Quaid



Preston Head III



Fred Haise



Dr. Steve Swensen



Tyler Sant



Avarie Pettit



Dr. Mary Foley



Bob Chapman



Perry Bechtle III



Becky Martins



Betsy Denham



Charlie Denham III



Dr. C Peabody



Dr. Chris Fox



Randy Styner



Tom Renner



David Beshk



Ann Rhoades



Nancy Conrad



Dr. Chopra



John Little



Debbie Medina





## Coronavirus Care Community of Practice

## Bystander Rescue Care *CareUniversity Series*



Matt Horace



John Tomlinson



Dan Ford



Arlene Salamendra



Jennifer Dingman



Bill George



Penny George



Hilary Schmidt PhD



Paul Bhatia EMT



Dr. McDowell

## Contributions Through Segments of our *Discovery Channel* Documentaries



Prof Christensen



Jim Collins



C Sullenberger



Charlotte Guglielmi



Dr. Don Berwick



Dr. Howard Koh



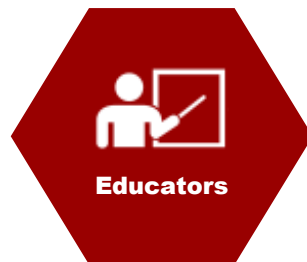
Dr. Jim Bagian



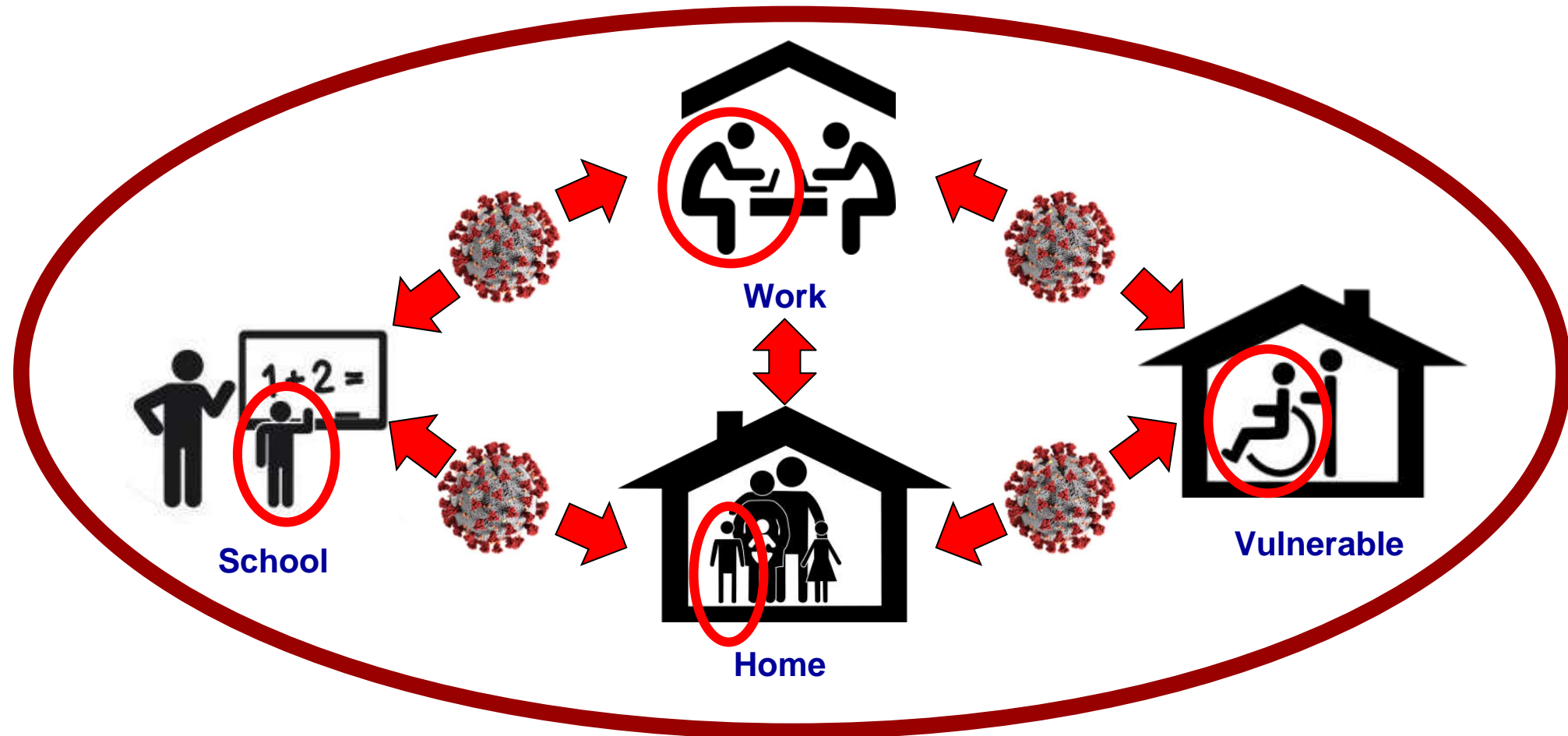
Dr. Harvey Fineberg



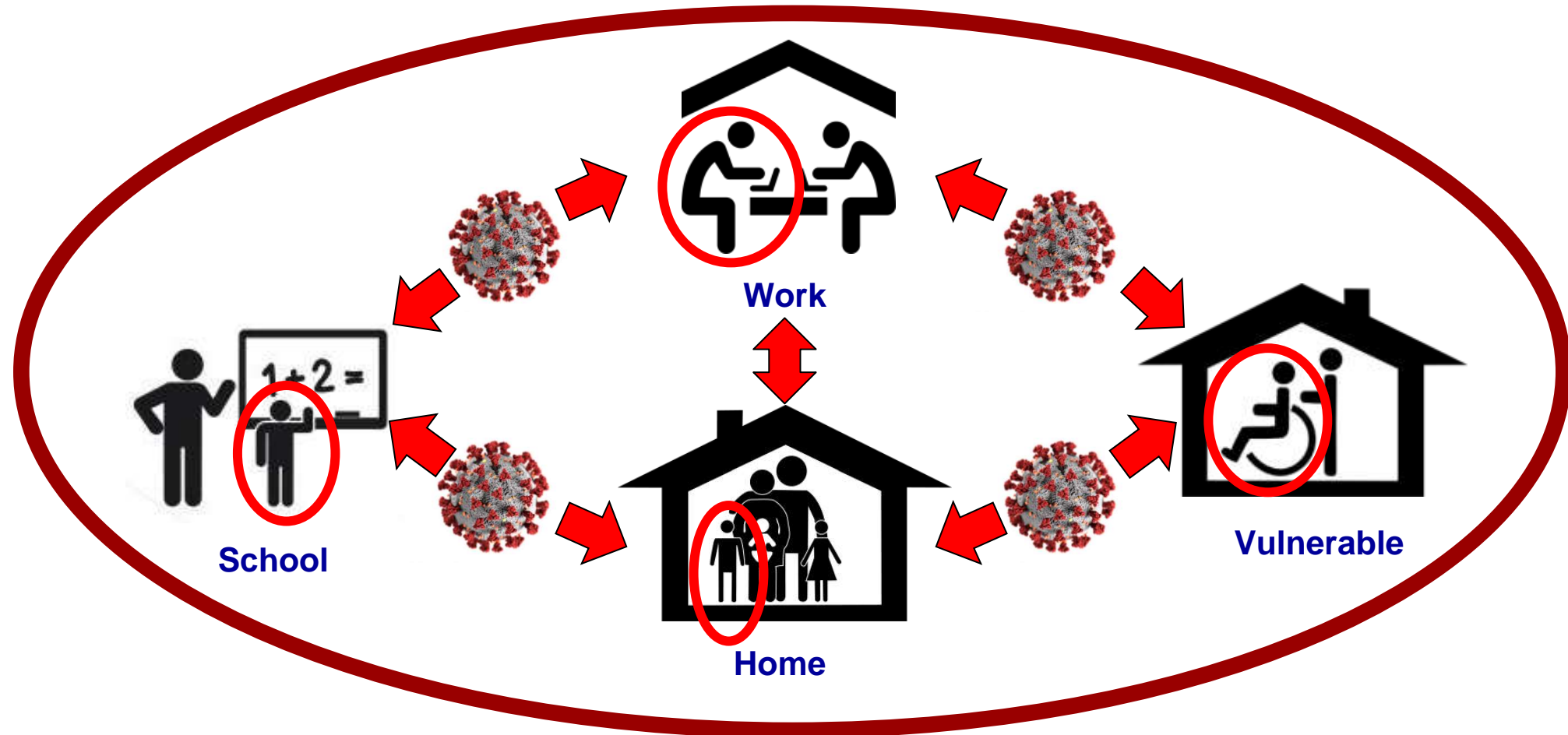
**Educators  
Declared  
Essential Critical  
Infrastructure  
Workers**



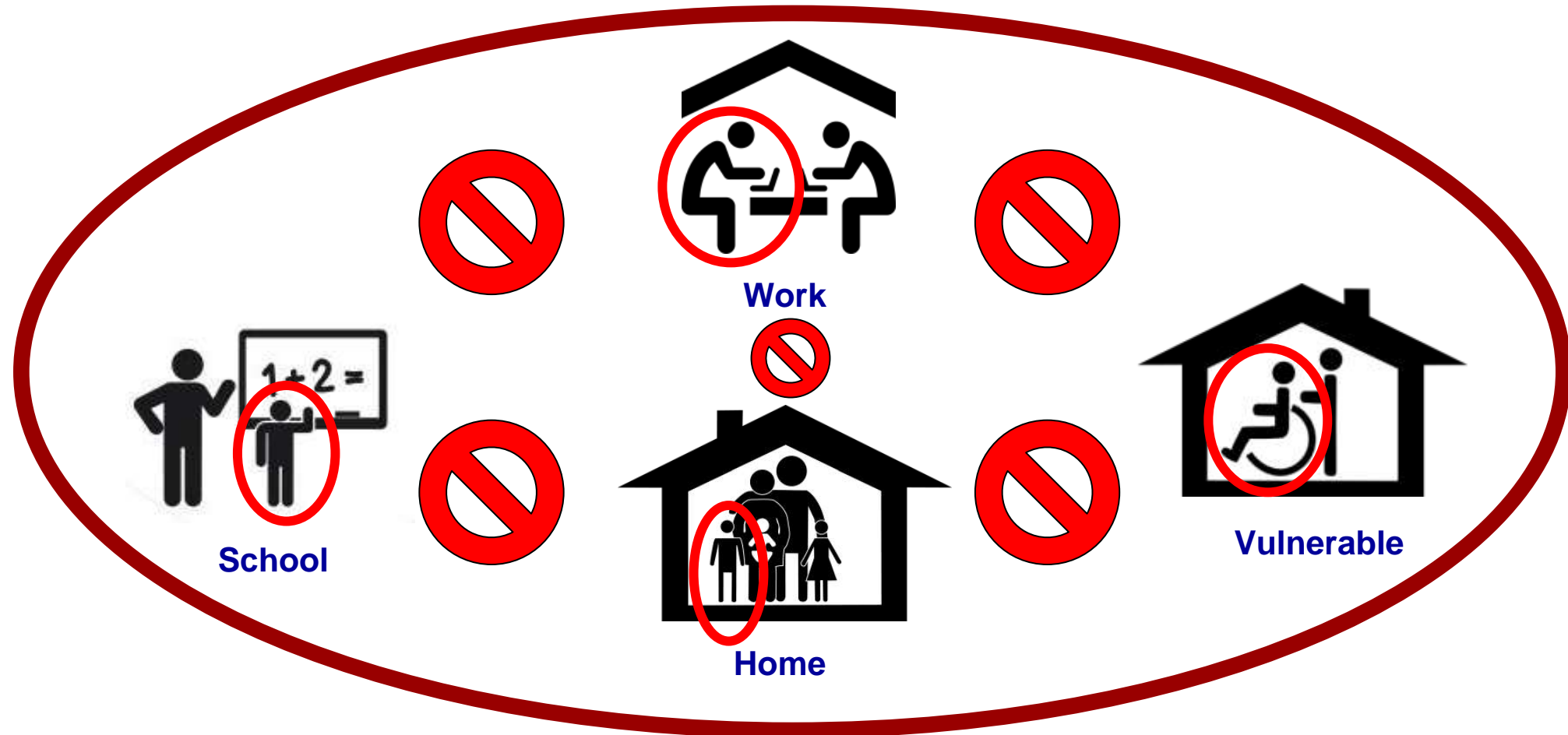
# Save the Families...



# Save the Families... You Save the Worker



# Breaking Family Transmission Chains





**Monthly Webinars every first Thursday of the month at 1PM ET (Noon Central and 10AM PT). Free, video, and resources posted.**

**BASIC MODULES**

**Why Social Distancing WORKS**

**Masks ARE Critical**

**Masks: The SCIENCE of Success**

**Hand Washing & DISINFECTANTS**

**CLEAN High Contact Surfaces**

**Building a FAMILY SAFETY PLAN**

**If we NEED Emergency Care**

**Why ICU, Respirators, and ECMO**

**Masks: The SCIENCE of Success**





- **BASIC MODULES:**
- **Short Videos 4-10 min**
- **Critical Information**
- **Hits Pillars of Prevention**

## ADVANCED MODULES

- Preparing for CARE at Home
- TELEMEDICINE Works - Try It
- Care of Seniors & those AT-RISK
- The Latest Best Practices
- Caregivers Surf the Next Wave
- Coming Home Safe Webinar
- The New Normal Webinar
- Back to School Safely

### TELEMEDICINE Works - Try It

- **ADVANCED MODULES:**
- **Longer more detailed**
- **Webinar Recordings**
- **Technical Information**

Related Resources


**Care of the At Risk & Seniors at Home**

[www.medtacglobal.org/coronavirus-response/](http://www.medtacglobal.org/coronavirus-response/)

# Take the Shot – Save a Life™

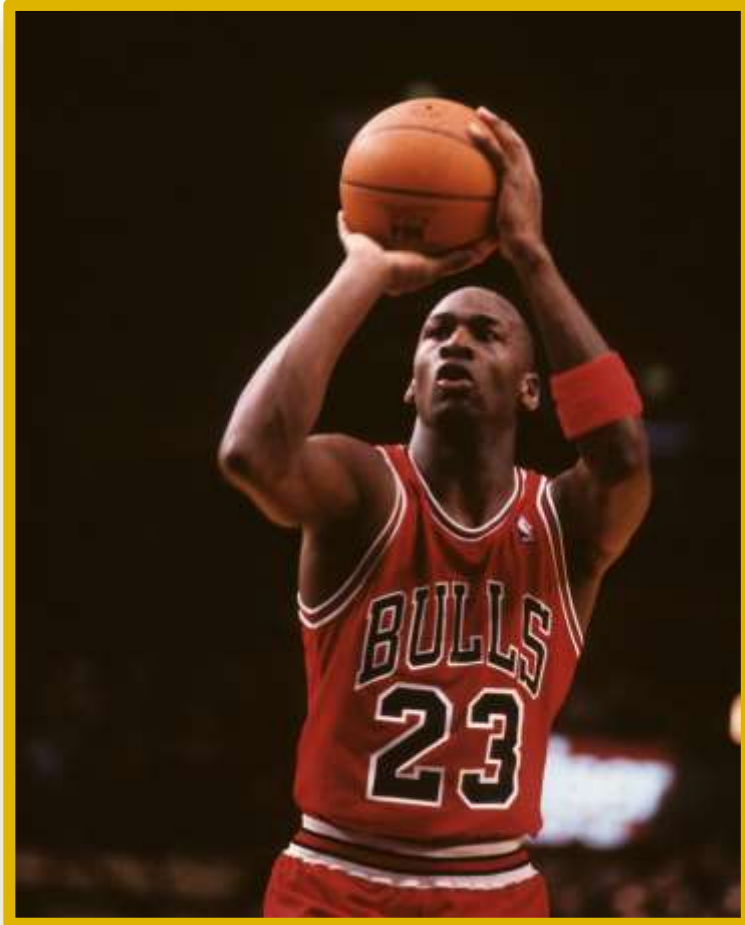


Photo 73861834 © Jerry Coli | Dreamstime.com

## The Vaccination Conversation

- Why Vaccinate?
- Why You?
- Why Now?





## Family Rescue R&D



Stanford  
University

Yale



## The 5 R's of Safety



UNIVERSITY OF CALIFORNIA  
SANTA BARBARA

UC San Diego



## Youth & Young Adult Team



D Contreras EMT  
Harvard



Ivy Tran EMT  
Harvard



Nick Scheel  
UCSB



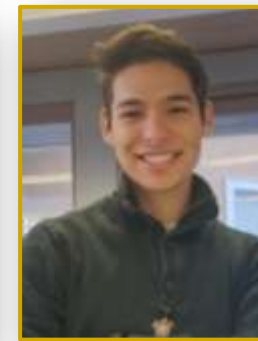
Sophia McDowell  
California Inst. of Arts



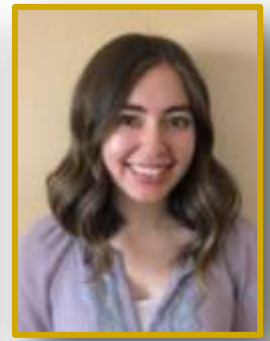
Audrey Lam EMT  
USC



Jacqueline Botz  
Chapman



Luis Licon  
UCI Alum



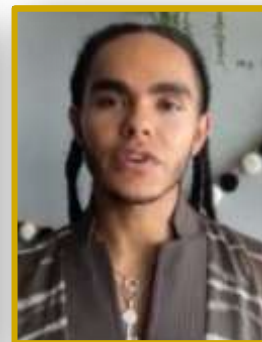
Melanie Rubalcava  
UCSD



Charlie Denham III  
High School Lead



Charlie Beall  
Stanford Alum



Marcus McDowell  
U of Cincinnati



Jaime Yrastorza  
UCSD Pre-med



Paul Bhatia EMT  
UCI Pre-med



D Policichio  
NYU Film



Manue Lopez  
Berkley Alum



Preston Head III  
UCLA Alum

# **The Movable Middle**

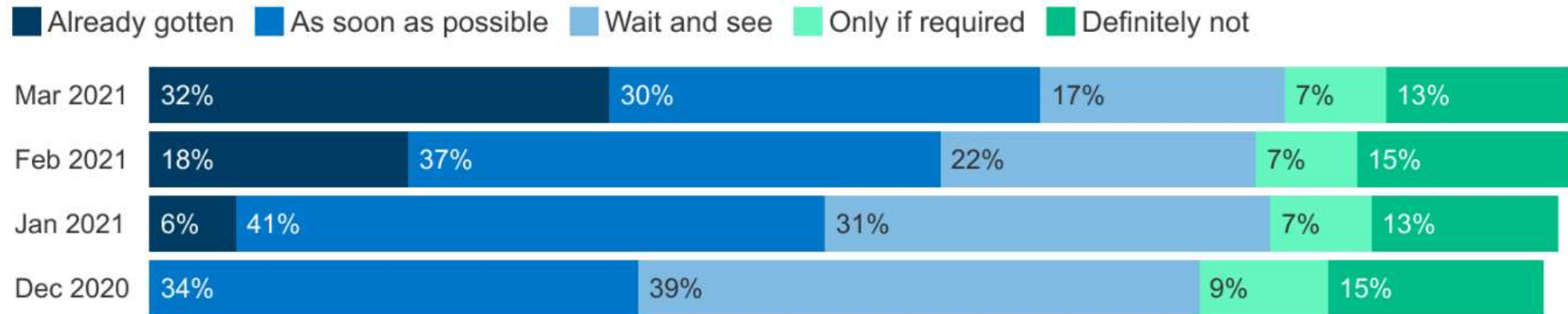
**Movable Middle  
Need Answers and Access**



# The Movable Middle

## One-Third Report Having Received At Least One COVID-19 Vaccine Dose; Share Wanting To "Wait And See" Continues To Shrink

Have you personally received at least one dose of the COVID-19 vaccine, or not? When an FDA authorized vaccine for COVID-19 is available to you for free, do you think you will...?



NOTE: December 2020 survey did not have an option for respondents to indicate they had already been vaccinated. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor (March 15-22, 2021)

**KFF COVID-19  
Vaccine Monitor**



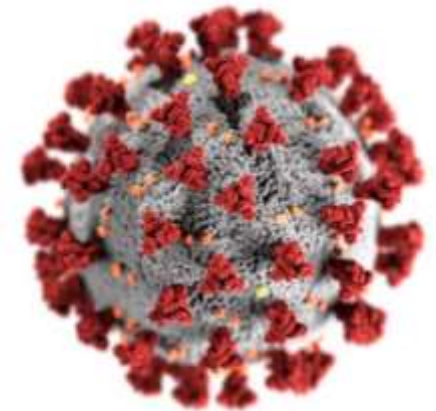
# Recovery: Long Haulers, Loss, and Caregivers

## *A Survive & Thrive Guide*™



**Charles Denham, MD**

**Chairman, TMIT Global  
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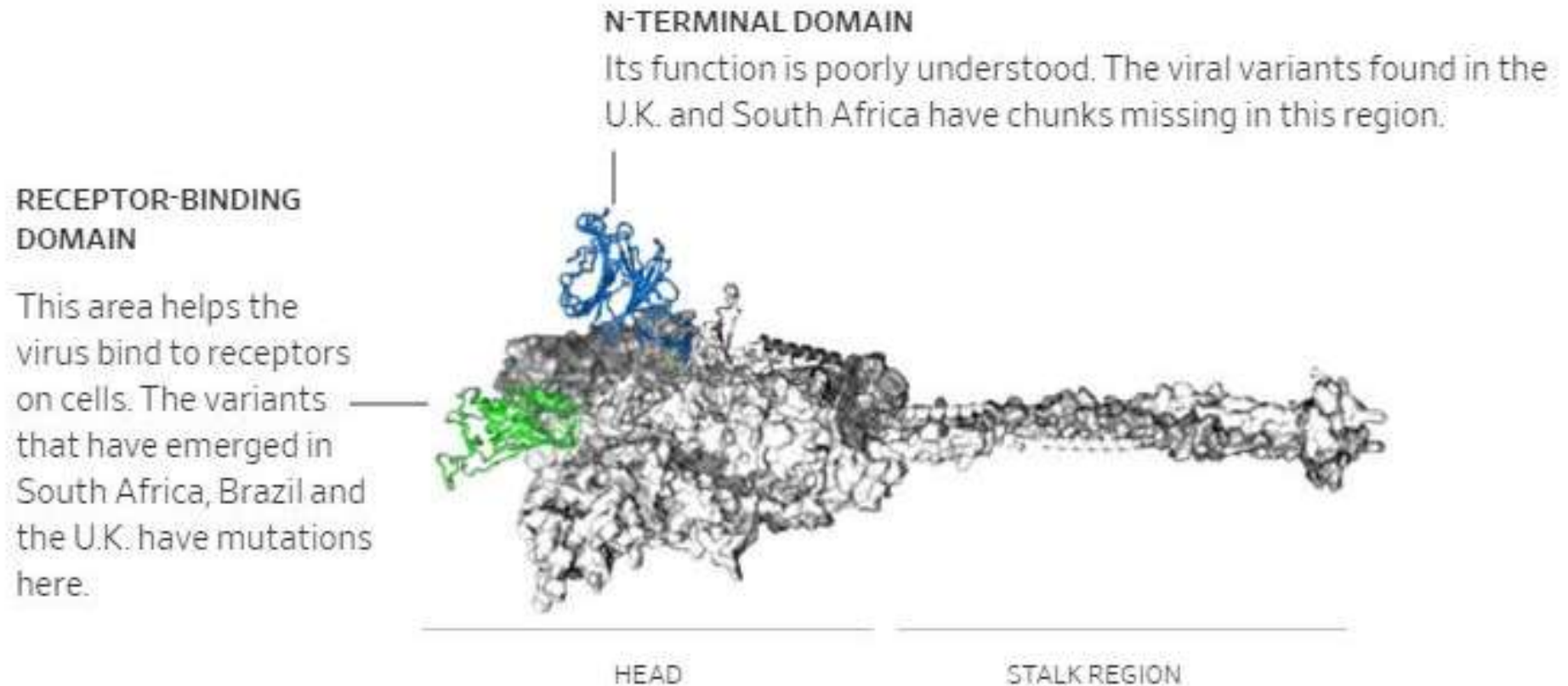
WALL STREET  
JOURNAL

01-16-20

**The Receptor-Binding Domain is critically important.**

**Variants from South Africa, Brazil, and UK may be more transmissible due to mutations here.**

**The N-Terminal Domain has been found to be another location of differences due to mutations. Variants here may lead to inefficiencies in immune defenses.**



Source: Jason McLellan, University of Texas at Austin

Source: <https://www.wsj.com/articles/why-the-new-covid-19-variants-could-be-more-infectious-11610802327>

## Trending Clinical Topic: P.1 Coronavirus Variant

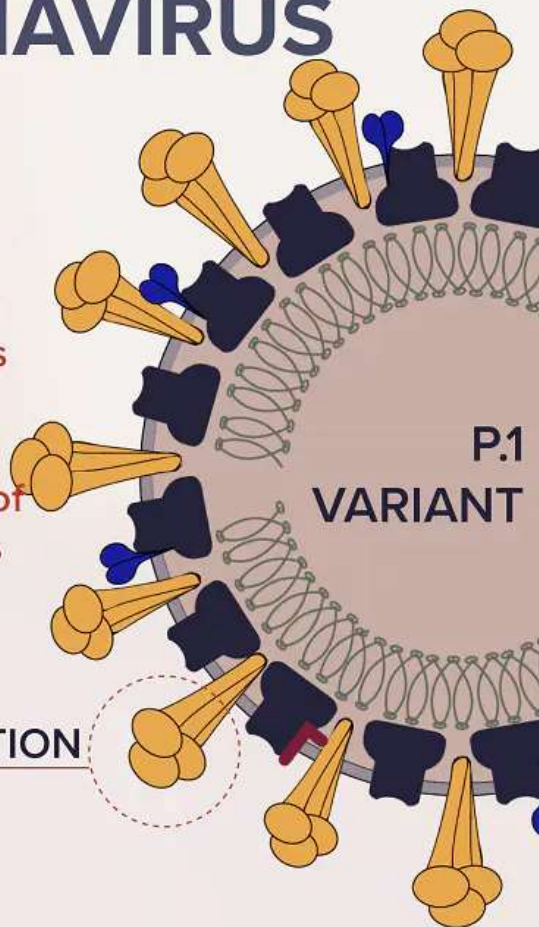
### P.1 CORONAVIRUS VARIANT

The P.1 coronavirus variant, first identified in travelers from Brazil, has **transmissibility 2.6 times greater** than previous circulating variants and showed **resistance to 3 of the 4 antibody therapies** it was tested against.

#### SPIKE REGION MUTATION

Medscape

Source:  
doi.org/10.1101/2021.03.03.21252706  
doi.org/10.1101/2021.03.01.433466



Details about the transmissibility and potential vaccine resistance of the P.1 coronavirus first identified in travelers from Brazil resulted in this week's top trending clinical topic. The P.1 variant has been partially [responsible for a deadly COVID-19 surge in Latin America](#). Research has identified mutations in the spike region used to enter and infect cells. [A recent preprint study](#) found that P.1 poses a higher risk for both transmission and reinfection. Experts say that the mutations appear somewhat similar to those seen in the even more aggressive variant first identified in South Africa. Of the four antibody therapies with emergency use authorization in the United States, only imdevimab retained any potency against the P.1 variant, [according to a new study](#). Researchers found that the [neutralizing ability of the other three monoclonal antibodies](#) was "markedly or completely abolished." The study also exposed the P.1 variant to plasma from patients who survived COVID-19 as well as blood from individuals who received the Pfizer/BioNTech or Moderna vaccines. The vaccine-induced antibodies and plasma were less effective at neutralizing P.1 compared with the original version of SARS-CoV-2.

Source:

[https://reference.medscape.com/viewarticle/949943?&src=WNL\\_testing\\_210506\\_MSCPEDIT\\_brazil&uac=&spon=3&implD=2947343&faf=1](https://reference.medscape.com/viewarticle/949943?&src=WNL_testing_210506_MSCPEDIT_brazil&uac=&spon=3&implD=2947343&faf=1)



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The P.1 variant has been partially **responsible for a deadly**

**The mRNA vaccines (Pfizer/BioNTech, Moderna) are four- to sevenfold less effective against the P.1 variant. However, they still appear to offer an important "cushion of protection," especially after two doses, and should still prevent disease, says Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases. The B.1.351 variant is more concerning; the AstraZeneca vaccine was shown to be 86 times less effective against it, with mRNA vaccines six- to eightfold less effective. The Johnson & Johnson vaccine also had less efficacy in populations where B.1.351 was surging.**

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# TIME

May 5, 2021

## Moderna Reports That Booster Doses of Its COVID-19 Vaccine Appear to Be Effective Against Virus Variants



The company is testing three ways to add a third dose to its current two-dose regimen to potentially increase protection against new variants of the SARS- CoV-2 virus. In its recent press release, Moderna reports on two of those strategies: adding a third dose of the existing vaccine, at half the dosage of the shots currently in use, and adding to the current two-shot regimen a third dose of a new vaccine the company developed specifically against the variant B.1.351 first identified in South Africa. Moderna is also investigating a combined vaccine booster that includes doses of both the existing vaccine and the new variant one—no results from that study are available yet. Both of the two strategies included in the recent press release are aimed at enhancing the body's immune response to the South African variant, as well as to another one that was detected in Brazil, called P.1. Moderna reports that both approaches appear to boost immune responses. **Two weeks after receiving either the halved dose of the existing vaccine or the dose of the new variant vaccine, serum taken from vaccinated people in the study was able to neutralize lab versions of the mutated version of the SARS-CoV-2 virus at levels similar to or higher than against the non-variant strain.**

Source: <https://apple.news/AhY--kMLgSk6S-kmtB89hOg>

# **Congressional Hearing on Long Haul COVID-19**



**Francis Collins, MD  
National Institutes of Health  
Director**

**April 28, 2021**

**National Institutes of Health Director Francis Collins, MD, who also testified at the hearing, estimated as many as 3 million people could be left with chronic health problems after even mild COVID infections.**

**"I can't overstate how serious this issue is for the health of our nation,"**

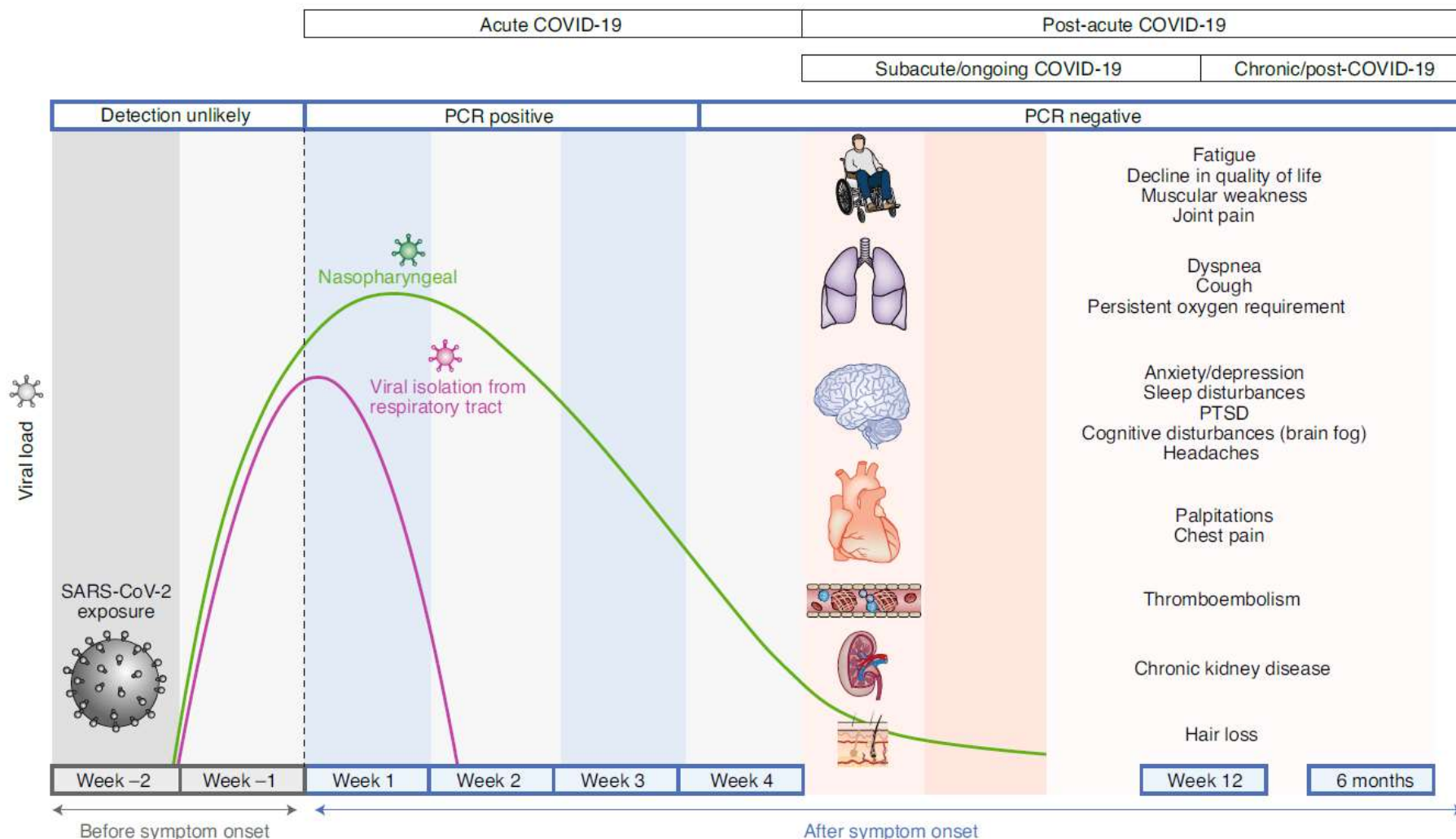
**Collins said his estimate was based on studies showing that roughly 10% of people who get COVID could have long-haul COVID-19 and whose "long-term course is uncertain," he said.**

**So far, more than 32 million Americans are**

<https://energycommerce.house.gov/committee-activity/hearings/hearing-on-the-long-haul-forging-a-path-through-the-lingers-effects-of>

Patient advocacy groups, many members of which identify themselves as long haulers, have helped contribute to the recognition of post-acute COVID-19, a syndrome characterized by persistent symptoms and/or delayed or long-term complications beyond 4 weeks from the onset of symptoms.

## Post-acute COVID-19 syndrome



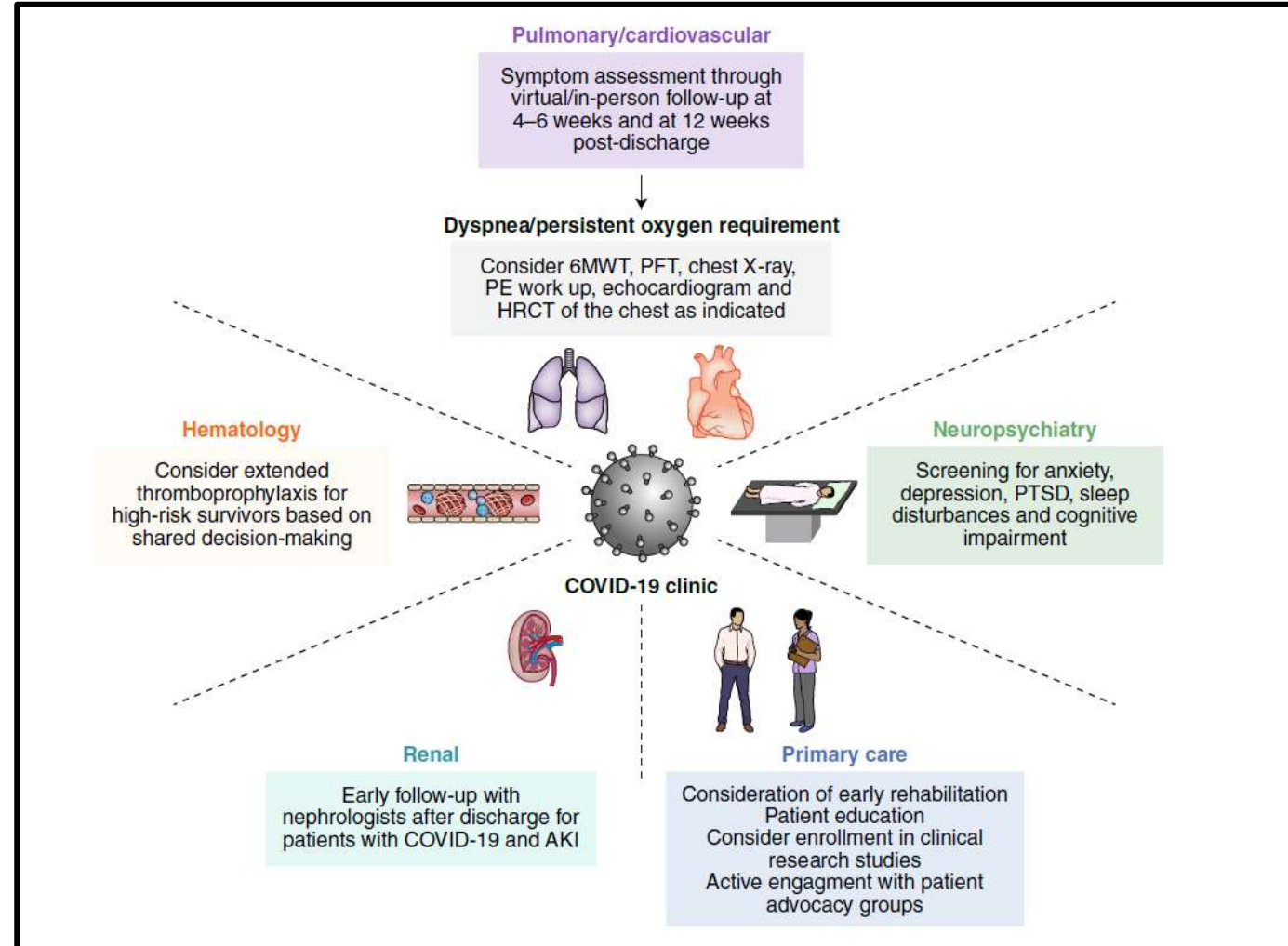
<https://doi.org/10.1038/s41591-021-01283-z>





Multidisciplinary collaboration is essential to provide integrated outpatient care to survivors of acute COVID-19 in COVID-19 clinics. Depending on resources, prioritization may be considered for those at high risk for post-acute COVID-19, defined as those with severe illness during acute COVID-19 and/or requirement for care in an ICU, advanced age and the presence of organ comorbidities (pre-existing respiratory disease, obesity, diabetes, hypertension, chronic cardiovascular disease, chronic kidney disease, post-organ transplant or active cancer). The pulmonary/cardiovascular management plan was adapted from a guidance document for patients hospitalized with COVID-19 pneumonia<sup>76</sup>. HRCT, high-resolution computed tomography; PE, pulmonary embolism.

## Post-acute COVID-19 syndrome



<https://doi.org/10.1038/s41591-021-01283-z>



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

## **Puzzling, often debilitating after-effects plaguing COVID-19 "long-haulers"**





**NJ Spotlight News**

## Kids stricken by long-haul COVID-19 find treatment at NJ clinic

BRENDA FLANAGAN, SENIOR CORRESPONDENT | MAY 5, 2021 | [CORONAVIRUS IN NJ](#)

Symptoms include shortness of breath, mental confusion



**CARLA MAGRINI**  
Mom of Pediatric COVID-19 Patient

“Parents call — confused and very worried,” says a staff member at New Jersey’s only clinic specializing in the treatment of pediatric long COVID-19. **Kids who got the disease and recovered can suffer sudden relapses, with symptoms including shortness of breath and mental confusion, and physical impairment of heart and lungs. Athletes get benched. Straight-A students see their grades plummet.**

Source: [www.njspotlight.com/video/kids-stricken-by-long-haul-covid-19-find-treatment-at-nj-clinic/](http://www.njspotlight.com/video/kids-stricken-by-long-haul-covid-19-find-treatment-at-nj-clinic/)

# healthline

## Long-Haul COVID-19 Symptoms May Appear in This Order

- COVID-19 long-haulers may experience symptoms such as fatigue, body aches, shortness of breath, difficulty concentrating, headache, and loss of taste or smell.
- A new poll finds that there may be a specific order for long-term COVID-19 symptoms.
- The first symptoms to emerge are often flu-like: fatigue, headache, fever, and chills.

Source: [www.healthline.com/health-news/long-haul-covid-19-symptoms-may-appear-in-this-order](https://www.healthline.com/health-news/long-haul-covid-19-symptoms-may-appear-in-this-order)

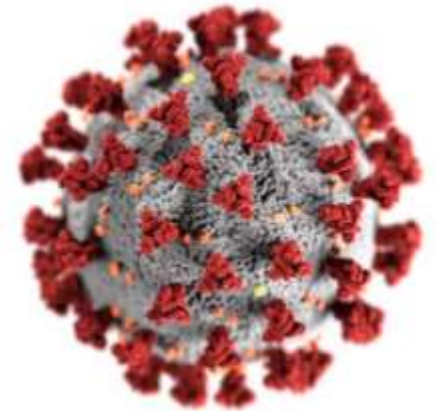
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**Gregory H. Botz, MD, FCCM**

**Professor of Anesthesiology and Critical Care  
UT MD Anderson Cancer Center, Houston, TX  
Adjunct Clinical Professor, Department of  
Anesthesiology  
Stanford University School of Medicine,  
Stanford, CA**



## Long Haulers



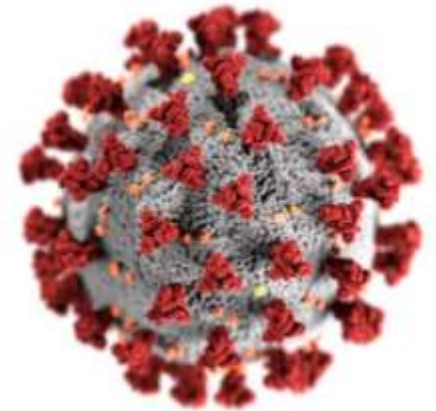


## Living Through the Long Hauler Journey



**Dr. Von-Maszewski**

**Assistant Professor,  
Department of Critical Care  
Division of Anesthesiology  
and Critical Care  
The University of Texas**



## **Long Haulers**

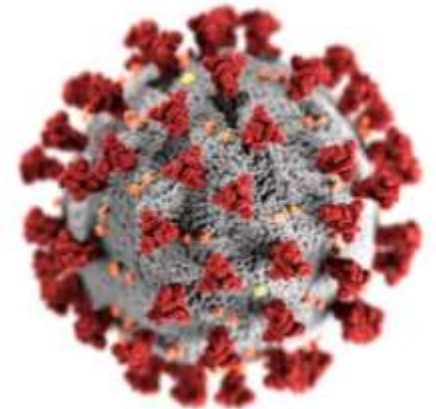


## Long Haul Syndromes in Children



**Dr. Barto-Owens**

**Community Pediatrician  
Med Tac Advisor  
Coronavirus Community of Practice**



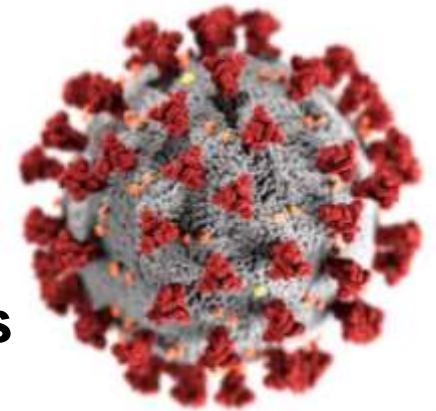
# **Recovery: Long Haulers, Loss, and Caregivers**

## ***A Survive & Thrive Guide***<sup>™</sup>



**William Adcox, MBA**

**Chief of Police and Chief Security Officer  
MD Anderson  
Cancer Center and The University of Texas  
Health Science Center, Houston, TX**





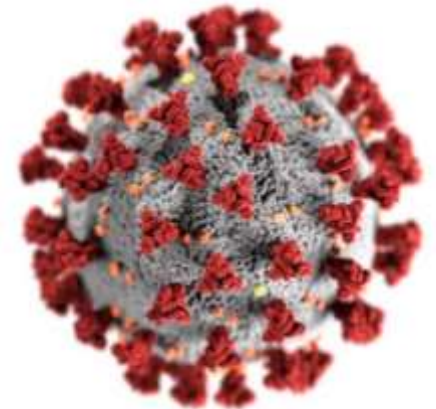
# Recovery: Long Haulers, Loss, and Caregivers

## *A Survive & Thrive Guide*™



**Heather Foster RN BSN**

Frontline Nurse  
Infection Prevention Advisor  
Patient Safety Advocate  
Dolores Colorado

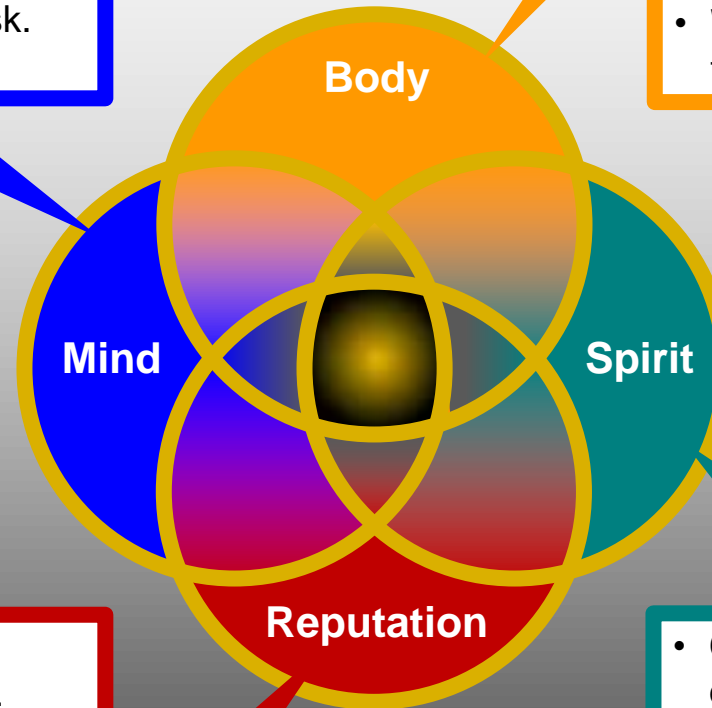


## Mind

- **Burn Out:** Prior to Coronavirus Crisis, burnout was at crisis proportions as are opioid ODs.
- **Mental Health:** Depression and Suicide are growing due to the additional stress.
- **Medical Accidents:** Patient Safety is at risk. The second victims are the caregivers.

## Body

- **Staff COVID-19 Infections:** Deaths, illness, and long-haulers.
- **Family COVID-19 Infections:** Family transmission chains external & internal.
- **Workplace Violence:** Pre-coronavirus 4-5 times all other industries put together.



## Reputation

- **Weaponizing Internet to Cause Harm:** External damage to create the “bad apple”.
- **Staff Harm by Weaponizing HR:** Internal actions to damage caregivers to for org.
- **Patient & Family Harm by Med-Mal:** Opposition research to damage plaintiff negotiations for settlements & gag orders.

## Spirit

- **Core Values:** Leaders drive values, values drive behaviors, behaviors drive performance. The collective behaviors of an org = culture.
- **Beliefs:** Trust in leaders and faith in the leaders and that they will take care of the care team.
- **Doubts:** Fear of leaders and despair with lack of support to frontline caregivers.

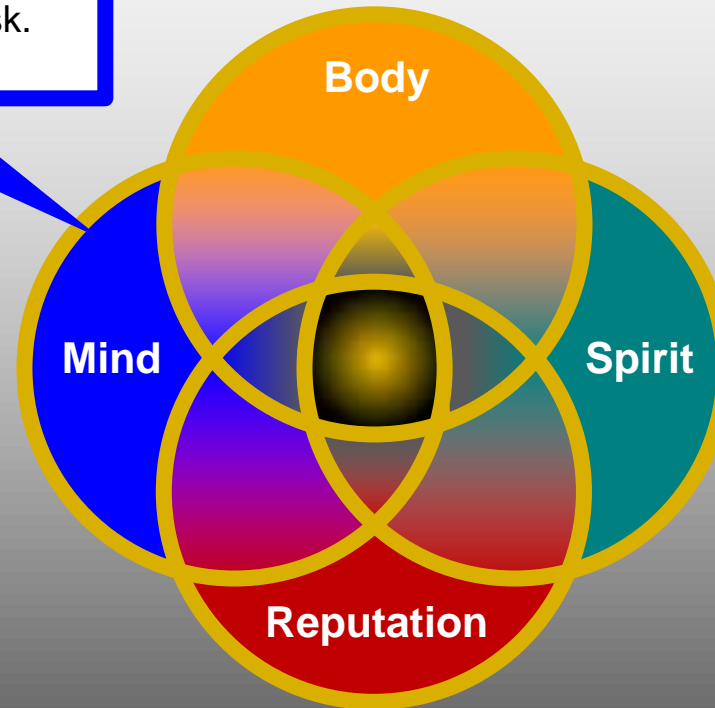
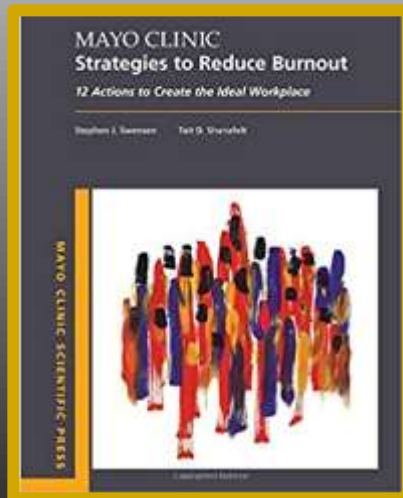
## Mind

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Mayo Clinic Strategies to Reduce Burnout  
Dr. Steve Swensen



Dr. Steve Swensen



TRUST: The 5 Rights of the  
Second Victim

*Charles R. Denham, MD*

## TRUST

- **T**reatment that is Just
- **R**espect
- **U**nderstanding and Compassion
- **S**upportive Care
- **T**ransparency & Opportunity to Contribute

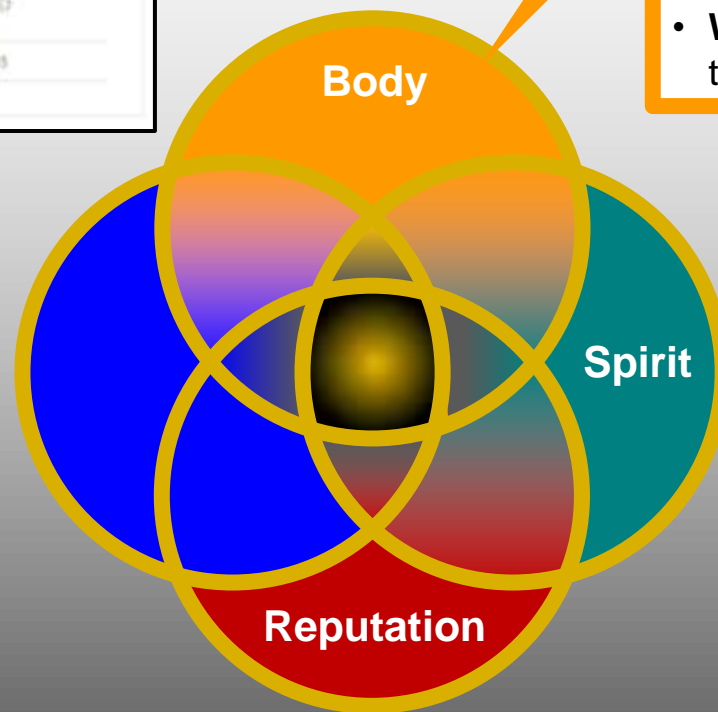
Table 1. Covid-19 Health Care Worker Deaths: Registered Nurses and Other Health Care Workers, as of Sept. 16, 2020

>1700  
Deaths

	Registered Nurses, Deceased	Other Health Care Workers, Deceased	Total — Nurses & Other Health Care Workers, Deceased
Current Total — U.S.	213	1,505	1,718
Hospitals	143	305	448
Nursing Home, Medical Practice, EMS, and Other Settings	62	1,006	1,067
Unknown	9	194	203

Body

- **Staff COVID-19 Infections:** Deaths, illness, and long-haulers.
- **Family COVID-19 Infections:** Family transmission chains external & internal.
- **Workplace Violence:** Pre-coronavirus 4-5 times all other industries put together.



## Sins of Omission

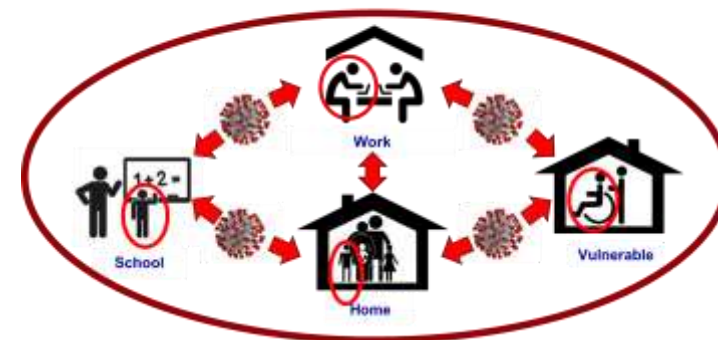
How Government Failures to Track Covid-19 Data Have Led to More Than 1,700 Health Care Worker Deaths and Jeopardize Public Health



National  
Nurses  
United

© November 2020

## Family Transmission Chains





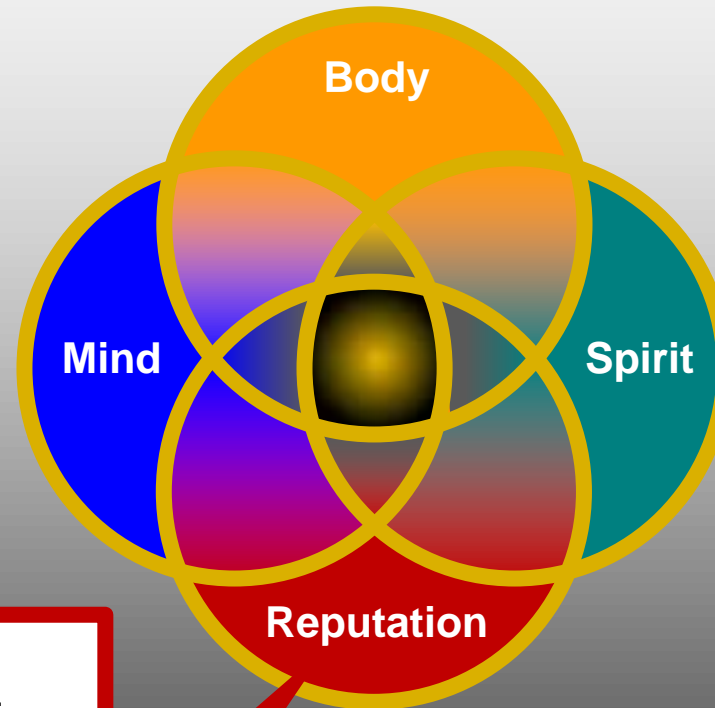
## HR Records Released to Press Nurse Commits Suicide



### The ONLY Defense is a GREAT Offense

- Practice Full Transparency
- Document Everything
- Use Your Own Disclosure Forms
- Respond to Cyber-defamation Immediately and Legally

**R&D Leaders Need Protection**



### Reputation

- **Weaponizing Internet to Cause Harm:** External damage to create the “bad apple”.
- **Staff Harm by Weaponizing HR:** Internal actions to damage caregivers to for org.
- **Patient & Family Harm by Med-Mal:** Opposition research to damage plaintiff negotiations for settlements & gag orders.

## Harm to Plaintiff Families in Med Malpractice Negotiations

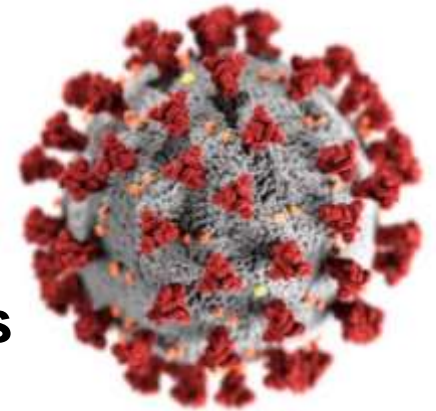


# **Recovery: Long Haulers, Loss, and Caregivers** ***A Survive & Thrive Guide***<sup>™</sup>



**William Adcox, MBA**

**Chief of Police and Chief Security Officer  
MD Anderson  
Cancer Center and The University of Texas  
Health Science Center, Houston, TX**



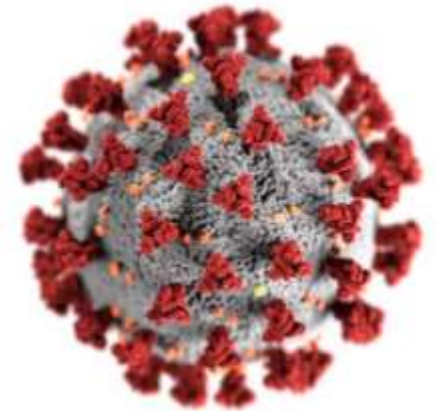
# **Recovery: Long Haulers, Loss, and Caregivers**

## ***A Survive & Thrive Guide***<sup>™</sup>



**Gregory H. Botz, MD, FCCM**

**Professor of Anesthesiology and Critical Care  
UT MD Anderson Cancer Center, Houston, TX  
Adjunct Clinical Professor, Department of  
Anesthesiology  
Stanford University School of Medicine,  
Stanford, CA**



# Recovery: Long Haulers, Loss, and Caregivers

## *A Survive & Thrive Guide™*



### **PACS**

**Post-Acute COVID-19 Syndrome**

### **MIS-C**

**Multisystem Inflammatory  
Syndrome in Children**

### **MIS-A**

**Multisystem Inflammatory  
Syndrome in Children**

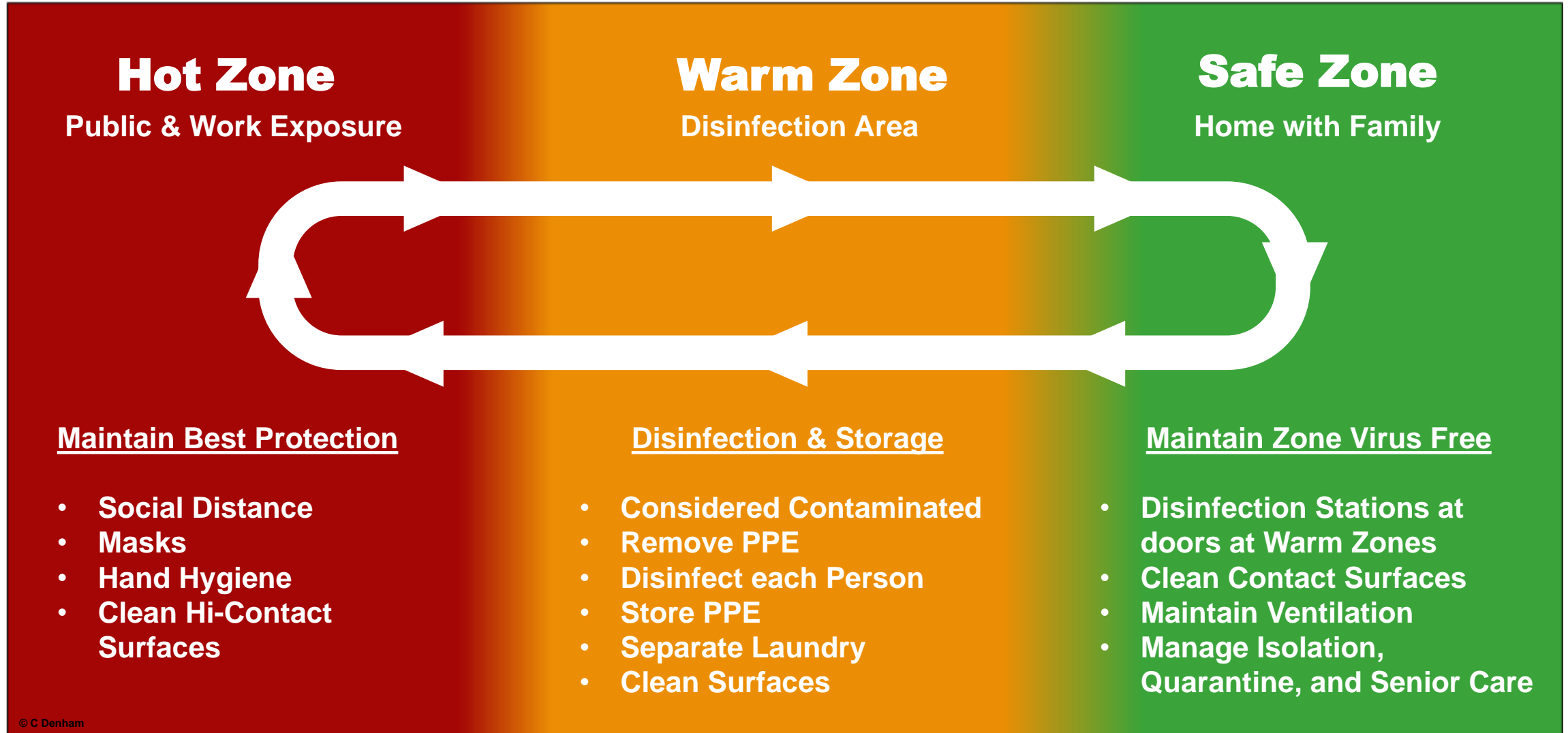


# Coming Home Safely

## *Family Survive & Thrive Guide™*



## **Hot-Warm-Safe Zone Practices**



# THE LANCET

April 15, 2021

## ***“Aerosols are the Dominant Mode of Transmission”***

### Ten scientific reasons in support of airborne transmission of SARS-CoV-2

1. The dominance of airborne transmission is supported by long-range transmission observed at super-spreader events.
2. Long-range transmission has been reported among rooms at COVID-19 quarantine hotels, settings where infected people never spent time in the same room.
3. Asymptomatic individuals account for an estimated 33% to 59% of SARS-CoV-2 transmission, and could be spreading the virus through speaking, which produces thousands of aerosol particles and few large droplets.
4. Transmission outdoors and in well-ventilated indoor spaces is lower than in enclosed spaces.
5. Nosocomial infections are reported in healthcare settings where protective measures address large droplets but not aerosols.
6. Viable SARS-CoV-2 has been detected in the air of hospital rooms and in the car of an infected person.
7. Investigators found SARS-CoV-2 in hospital air filters and building ducts.
8. It's not just humans — infected animals can infect animals in other cages connected only through an air duct.
9. No strong evidence refutes airborne transmission, and contact tracing supports secondary transmission in crowded, poorly ventilated indoor spaces.
10. Only limited evidence supports other means of SARS-CoV-2 transmission, including through fomites or large droplets.

Source: [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)008692/](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)008692/)

## **Hot-Warm-Safe Zone Practices**



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

COVID-19



MENU >

### Science Brief: SARS-CoV-2 and Surface (Fomite) Transmission for Indoor Community Environments

Updated Apr. 5, 2021

Languages ▼

Print

The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through [exposure to respiratory droplets carrying infectious virus](#). It is possible for people to be infected through contact with contaminated surfaces or objects (fomites), but the risk is generally considered to be low.

### Background

SARS-CoV-2, the virus that causes COVID-19, is an enveloped virus, meaning that its genetic material is packed inside an outer layer (envelope) of proteins and lipids. The envelope contains structures (spike proteins) for



## Choosing Safer Activities

	Unvaccinated People	Your Activity	Fully Vaccinated People
		<b>Outdoor</b>	
Safest		Walk, run, or bike outdoors with members of your household	
		Attend a small, outdoor gathering with fully vaccinated family and friends	
Less Safe		Attend a small, outdoor gathering with fully vaccinated and unvaccinated people	
		Dine at an outdoor restaurant with friends from multiple households	
Least Safe		Attend a crowded, outdoor event, like a live performance, parade, or sports event	
		<b>Indoor</b>	
Less Safe		Visit a barber or hair salon	
		Go to an uncrowded, indoor shopping center or museum	
		Ride public transport with limited occupancy	
		Attend a small, indoor gathering of fully vaccinated and unvaccinated people from multiple households	
Least Safe		Go to an indoor movie theater	
		Attend a full-capacity worship service	
		Sing in an indoor chorus	
		Eat at an indoor restaurant or bar	
		Participate in an indoor, high intensity exercise class	

### Get a COVID-19 vaccine



Prevention measures not needed

Take prevention measures

Fully vaccinated people: wear a mask.  
Unvaccinated people: wear a mask, stay 6 feet apart, and wash your hands.

- Safety levels assume the recommended prevention measures are followed, both by the individual and the venue (if applicable).
- CDC cannot provide the specific risk level for every activity in every community. It is important to consider your own personal situation and the risk to you, your family, and your community before venturing out.

## Outdoor Activities



Your Activity

Fully Vaccinated People

Unvaccinated People

Walk, run, wheelchair roll, or bike outdoors with members of your household



Attend a small, outdoor gathering with fully vaccinated family and friends



# Choosing Safer Activities

		Your Activity		
Unvaccinated People		Outdoor	Fully Vaccinated People	
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## ***Hot-Warm-Safe Zone Practices***

### **Background**

SARS-CoV-2, the virus that causes COVID-19, is an enveloped virus, meaning that its genetic material is packed inside an outer layer (envelope) of proteins and lipids. The envelope contains structures (spike proteins) for attaching to human cells during infection. The envelope for SARS-CoV-2, as with other enveloped respiratory viruses, is labile and can degrade quickly upon contact with surfactants contained in cleaning agents and under environmental conditions. The risk of fomite-mediated transmission is dependent on:

- The infection prevalence rate in the community
- The amount of virus infected people expel (which can be substantially reduced by [wearing masks](#))
- The deposition of expelled virus particles onto surfaces (fomites), which is affected by air flow and [ventilation](#)
- The interaction with environmental factors (e.g., heat and evaporation) causing damage to virus particles while airborne and on fomites
- The time between when a surface becomes contaminated and when a person touches the surface
- The efficiency of transference of virus particles from fomite surfaces to hands and from hands to mucous membranes on the face (nose, mouth, eyes)
- The dose of virus needed to cause infection through the mucous membrane route



# Choosing Safer Activities

Updated Apr. 27, 2021

Languages ▾

Print

## What You Need to Know

- [If you are fully vaccinated](#), you can start doing many things that you had stopped doing because of the pandemic.
- When choosing safer activities, consider [how COVID-19 is spreading in your community](#), the number of people participating in the activity, and the location of the activity.
- Outdoor visits and activities are safer than indoor activities, and fully vaccinated people can participate in some indoor events safely, without much risk.
- If you haven't been vaccinated yet, [find a vaccine](#).

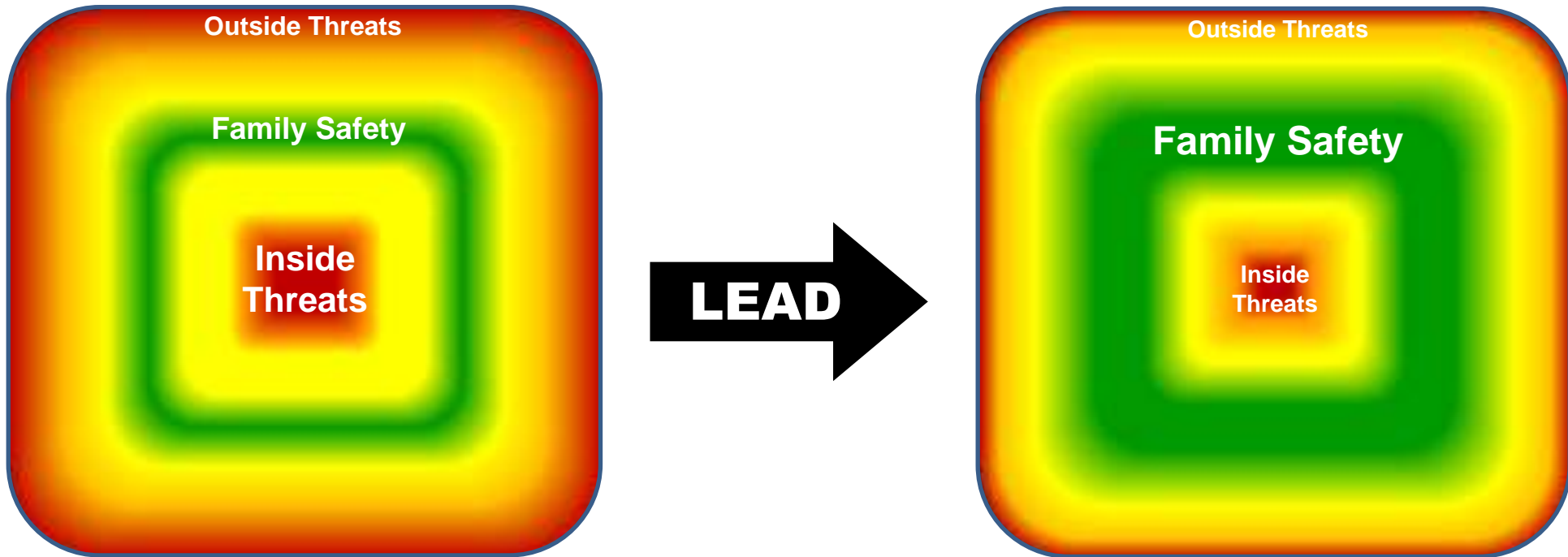


## New Updates to Precautions



# Keeping Our Kids Safe

## *Family Survive & Thrive Guide™*



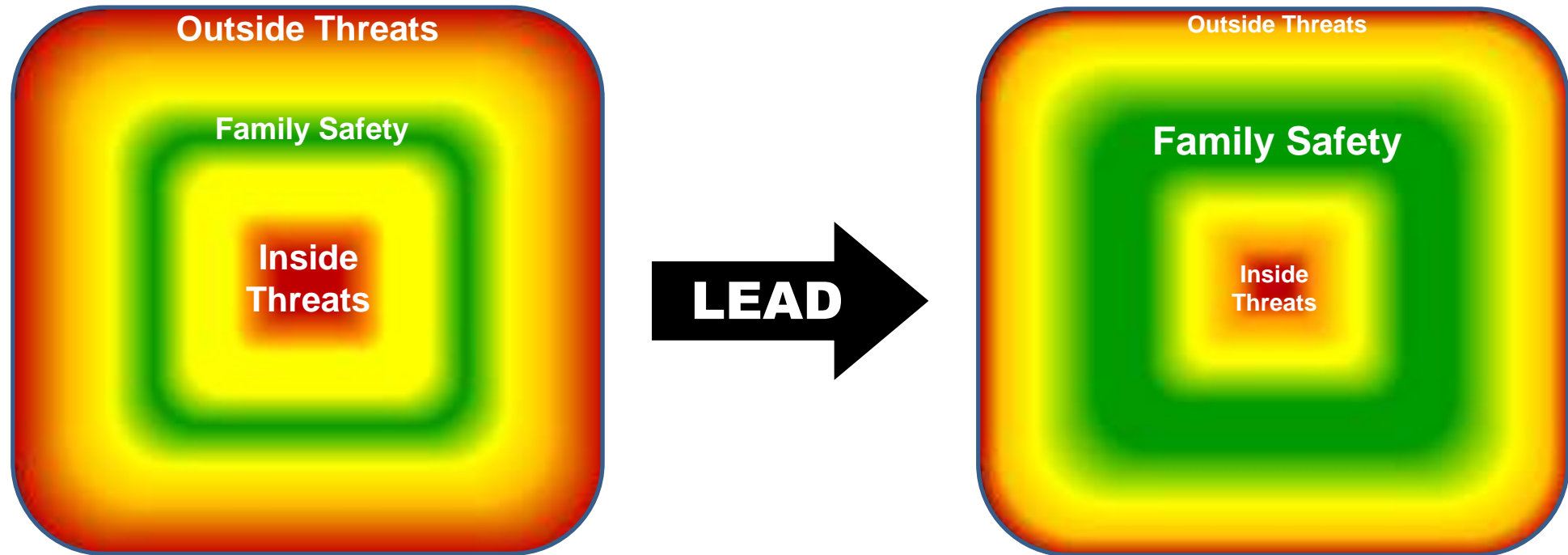


# Threats X Vulnerability = Risk to Your Family

**Threats:**  
Likely to  
cause HARM.

**Vulnerability:**  
Weaknesses that can be  
EXPLOITED by threats.

**Risk:**  
PROBABILITY of harm by a  
threat exploiting vulnerability.



# CDC Updates Operational Strategy for K–12 Schools to Reflect New Evidence on Physical Distance in Classrooms

## Press Release

Embargoed Until: Friday, March 19, 2021, 12 p.m. ET

**Contact:** [Media Relations](#)

(404) 639-3286

- In elementary schools, CDC recommends all students remain at least 3 feet apart in classrooms where mask use is universal — regardless of whether community transmission is low, moderate, substantial, or high.
- In middle and high schools, CDC also recommends students should be at least 3 feet apart in classrooms where mask use is universal and in communities where transmission is low, moderate, or substantial.
- Middle school students and high school students should be at least 6 feet apart in communities where transmission is high, if cohorting is not possible. [Cohorting](#) is when groups of students are kept together with the same peers and staff throughout the school day to reduce the risk for spread throughout the school. This recommendation is because COVID-19 transmission dynamics are different in older students – that is, they are more likely to be exposed to SARS-CoV-2 and spread it than younger children.
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### Speakers & Reactors



Dr. Gregory Botz



Dr. Von-Maszewski



Dr. Brittney Barto



Jennifer Dingman



Heather Foster RN



William Adcox



Dr. Charles Denham

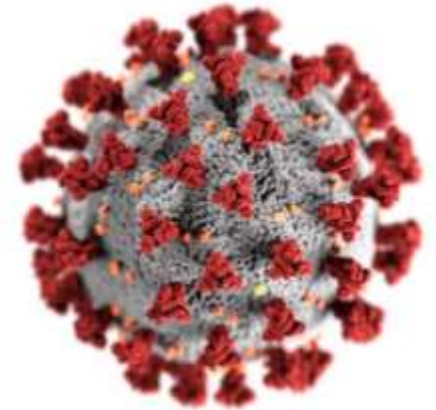


## ***Voice of the Patient***



### **Jennifer Dingman**

**Founder, Persons United Limiting  
Substandard and Errors in Healthcare  
(PULSE), Colorado Division  
Co-founder, PULSE American Division  
TMIT Patient Advocate Team Member  
Pueblo, CO**



**Fight the Good Fight**

**Finish the Race**

**Keep the Faith**

# ***Additional Resources and Slides from Videos***

# Creating Your Family Safety Plan

## *Family Survive & Thrive Guide™*





## **Family Health Safety Plans**

**Readiness:** Preparation, regular review, and updating of a plan based on the latest science. Regular deliberate practice of roles and skills each family member undertake.

**Readiness**

**Resilience**

**Resilience:** Fortify response, rescue, and recovery actions in plan. In law enforcement and healthcare, we call this “target hardening”.

**Response**

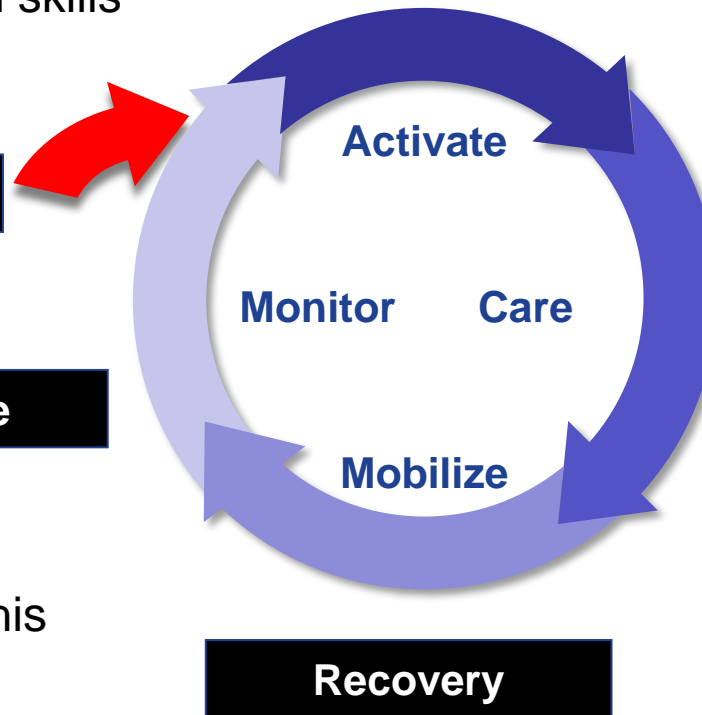
**Response:** Family moves to action to respond to an emergency. Safeguards are put in place. The family may respond to a member being infected or exposed to someone infected.

**Rescue**

**Rescue:** Regular deliberate practice of roles and skills to take a loved one to the Emergency Department if they have severe symptoms. This means having records and medications ready go with the patient.

**Recovery**

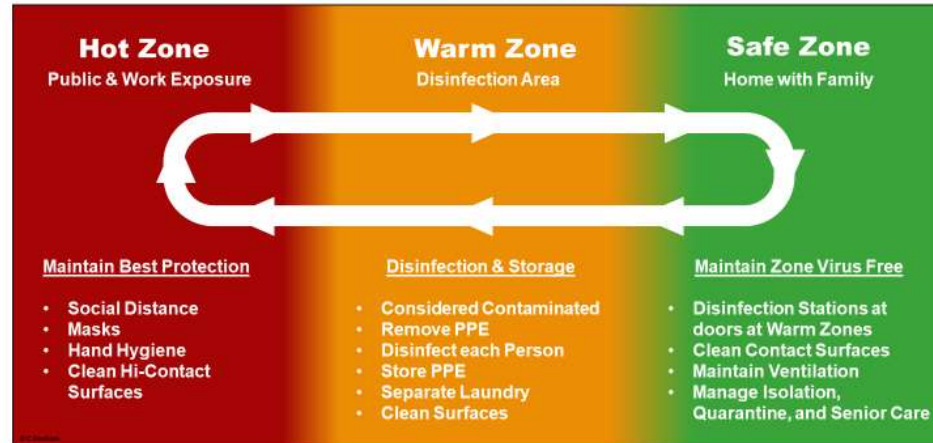
**Recovery:** Follow up care of the family member after an event. Returning to normal family activities after a family member is infected and isolated, hospitalized, or under quarantine.”



# Survive & Thrive Guide: Protecting Your Family

## Survive & Thrive Guide: Protecting Your Family

### Hot-Warm-Safe Zone Practices



## Survive & Thrive Guide: Protecting Your Family

### Hot-Warm-Safe Zone Practices



#### HOT ZONE PRACTICES

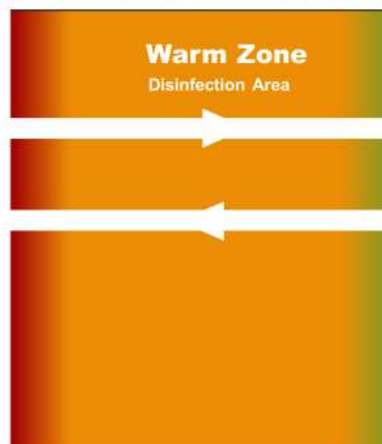
- Social Distance – 6 Feet is a MINIMUM
- Handwashing is poor even in caregivers – 20 sec
- Avoid Poorly Ventilated Spaces
- Don't Touch Face Masks or the Face
- Be gracious but firm when others invade your space
- It is critical to know how to put on and take off Personal Protective Equipment (PPE). Called "Don and Doff" in healthcare jargon.
- Whenever in doubt, wash your hands.
- Know the process for reporting outbreaks.
- "Exposure to Infected" is being within 6 FEET OF INFECTED FOR LONGER THAN 15 MINUTES.

## Survive & Thrive Guide: Protecting Your Family

### Hot-Warm-Safe Zone Practices

- WARM ZONE**  
**Leaving Hot Zone Practices**
- Disinfect before getting in car.
  - Contain Contaminated Materials
  - Wipe Down Car Door Handles and contact surfaces if car is warm zone.
  - If Car is WARM ZONE: It must be considered contaminated.
  - Be ready to store contaminated gear in your car if you must.

- WARM ZONE**  
**Joining Hot Zone Practices**
- Assure your mask has good fit.
  - Practice no mask or face touching
  - If contaminated – wash hands.
  - Know the rules of the workplace or public venue.



- WARM ZONE**  
**Coming Home Practices**
- Designate WARM ZONE room or space for disinfecting,
  - Assemble & Maintain Disinfection Station with cleaning supplies.
  - Keep the family out of WARM ZONE
  - Increase precautions if someone is in quarantine or isolation.

- WARM ZONE**  
**Leaving Home Practices**
- New or Cleaned masks, gloves, face shields and coverings.
  - Bring disinfectants in your car or your gear.
  - Bring extra masks if you have them.

## Survive & Thrive Guide: Protecting Your Family

### Hot-Warm-Safe Zone Practices

#### SAFE ZONE PRACTICES

- Establish and maintain disinfection stations at doors.
- Regularly clean high contact surfaces.
- Prevent people or parcels from bringing the virus home.
- If possible, keep rooms well ventilated.

#### Care of Someone At Home

- Getting your "MacGyver On" – Use what you have.
- Whether the flu or Coronavirus – use same processes.
- Isolation is for all those who are infected or sick.
- The infected NEED to wear masks. Social distance and hand hygiene are important. Surfaces ARE a risk.
- Quarantine is for who may be infected – assume infected until end of quarantine period or test negative.



## **Hot-Warm-Safe Zone Practices**



**Hot Zone**  
Public & Work Exposure

Maintain Best Protection

- Social Distance
- Masks
- Hand Hygiene
- Clean Hi-Contact Surfaces

© C Denham

### **HOT ZONE PRACTICES**

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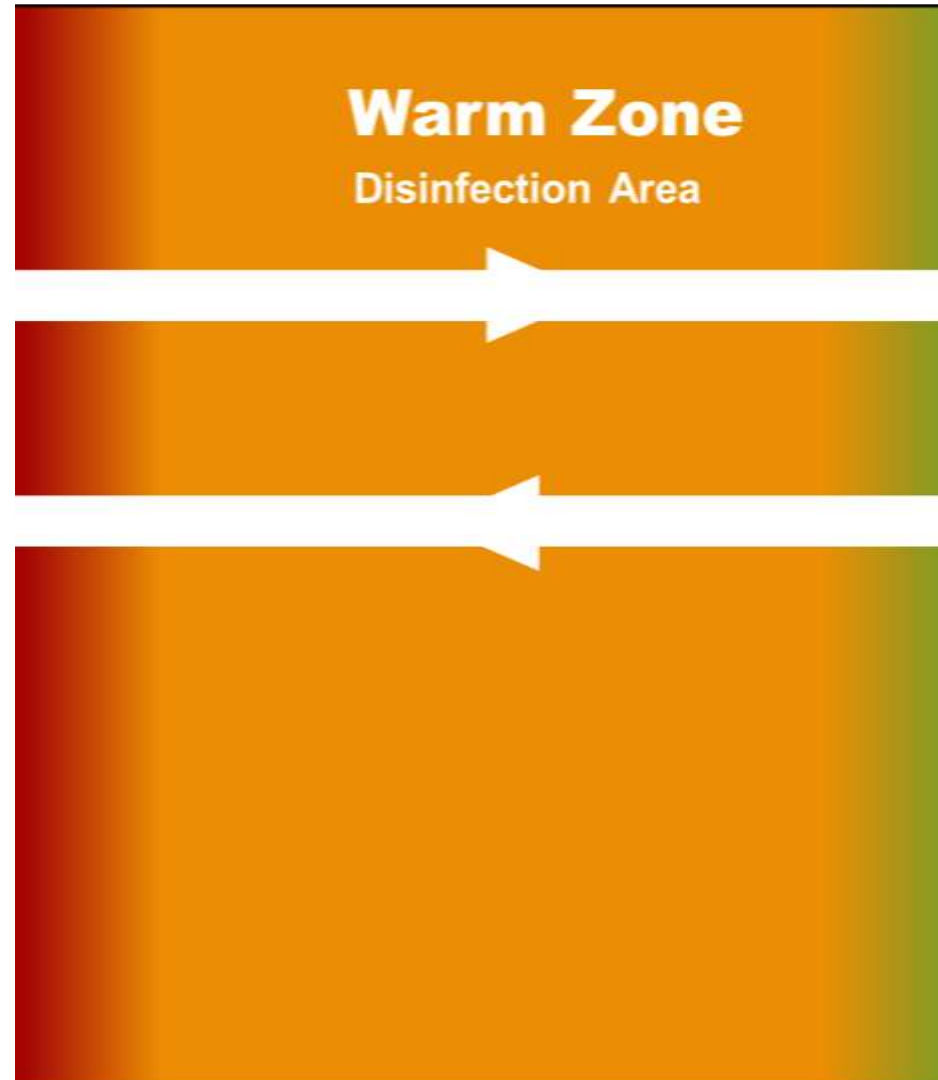
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© C Denham



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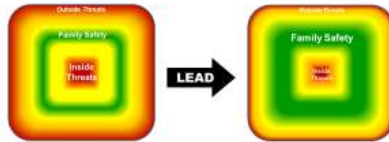
# Survive & Thrive Guide: Protecting Your Family

## Keeping Our Kids Safe: Steps 1-4

### Keeping Our Kids Safe...by Keeping the Unit Family Safe



Reduce Family Vulnerability



#### STEP 1: Identify Each Family Member's Threat Profile

- Family living together and those in direct contact.
- Identify threats due to age, underlying conditions, and outside threats related to region and living conditions.

#### STEP 2: Identify and Follow Local Coronavirus Threats

- Local Community infection factors, trends, and public health guidelines will drive your behaviors and plans.
- Understand the public health processes in place where the family members will work, learn, play, and pray.

#### STEP 3: Develop a Family Safety Plan

- A leader or leaders of the family act as the CFO – Chief Family Officer who drives the plan: Readiness, Response, Rescue, Recovery, and Resilience.

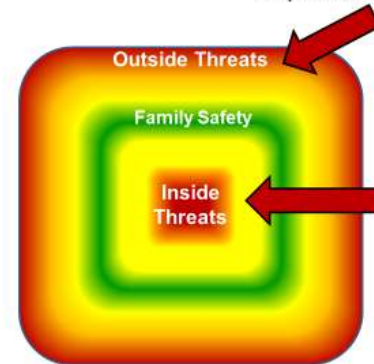
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## Survive & Thrive Guide: Protecting Your Family

### STEP 2: Identify and Follow Local Coronavirus Threats

#### Inside versus Outside Threats



- High Background Community Infection or trending with more infections.
- Schools without proper Test, Trace, Treat, Isolate, and Quarantine Programs.
- Group Activities and Sports without Proper Prevention - Social Distancing etc.

### Outside Threats:

- Lack of Mask Use by all exposed to family.
- Community without adequate public health services including Test, Trace, Treat, Isolate, and Quarantine Programs.
- Critical Essential Infrastructure Worker Exposure bringing virus home to family.

### Inside Threats:

- Delayed Emergency Medical Care for of Children due to fear.
- Delayed Vaccines for Children due to fear.
- Depression in Children isolated at home.
- Threats to Immune Compromised Children.
- Inadequate Nutrition of Children.
- Lack of Exercise of Children and Adults.
- Adults with underlying at-risk illnesses.
- Seniors over 65 years of age at risk due to age.
- Delayed Emergency Medical Care for Adults due to Fear.
- Delayed or absent Screening for Adults and Seniors.
- Delayed Elective Medical Procedures for adults.
- Inadequate Disinfection of Hi Contact Surfaces.

CareUniversity



Med Tac Bystander Rescue Care

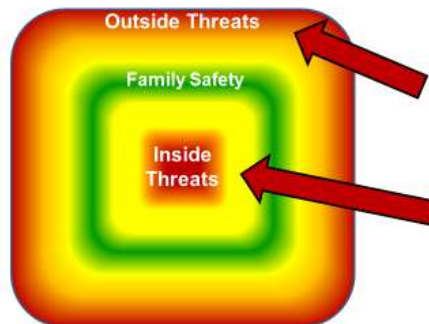


Med Tac Bystander Rescue Care

## Survive & Thrive Guide: Protecting Your Family

### STEP 1: Identify Each Family Member Threat Profile

Understanding the Threats, Vulnerability, and Risk of Harm to our Children



#### Family Unit Threat Profile:

##### Outside Threats from Community

- Threats, Vulnerability, and Risk from the outside environment for each individual family member for being infected, harmed, and death.
- Threats, Vulnerability, and Risk of current behaviors.

##### Inside Threats to Family – Home and Conditions

- Threats, Vulnerability, and Risk for each family member unique to them for being infected, harmed, and death.
- Threats, Vulnerability, and Risk of current behaviors within the home and living spaces.

### STEP 3:

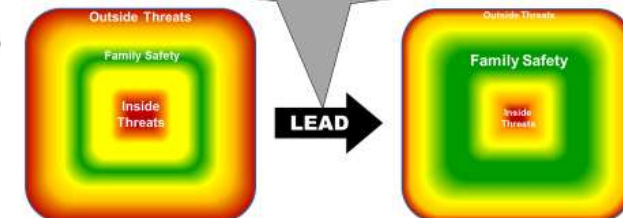
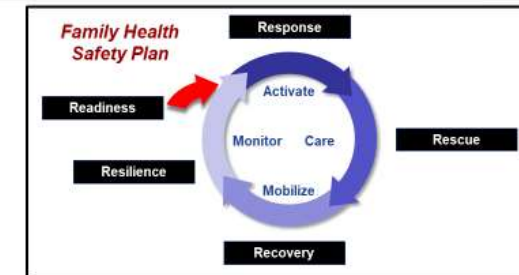
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CareUniversity



Med Tac Bystander Rescue Care

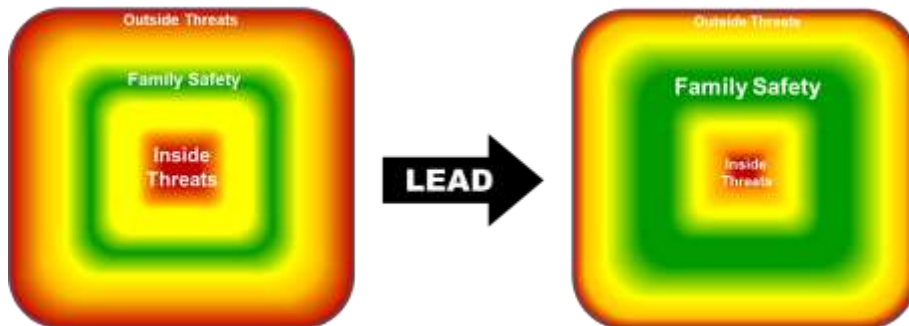


Med Tac Bystander Rescue Care

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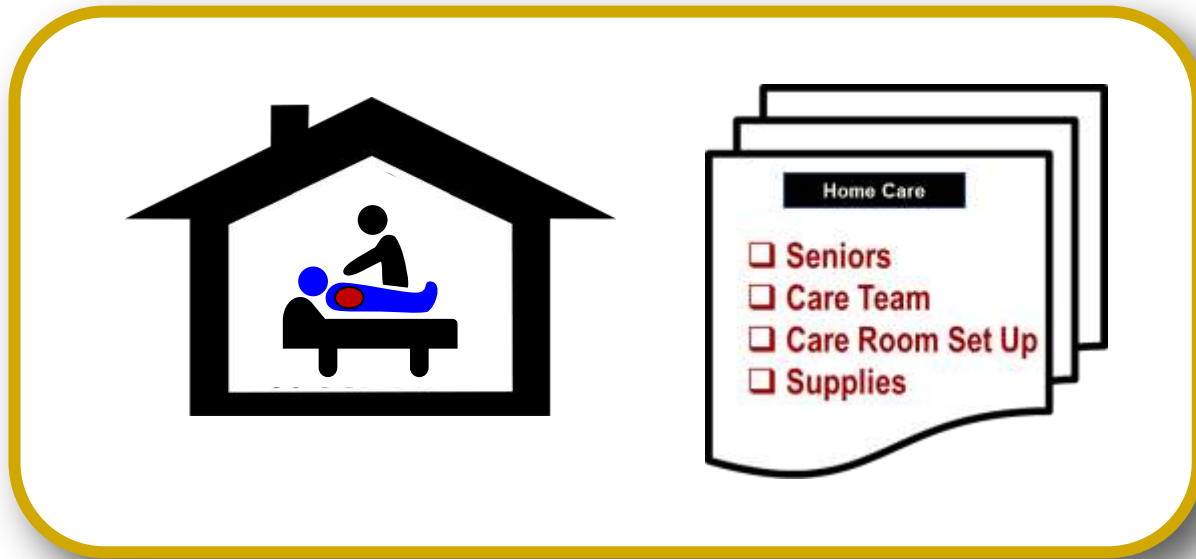
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# Family Survive & Thrive Guide: Providing Care at Home<sup>™</sup>



## Primary Contributors



Heather Foster RN

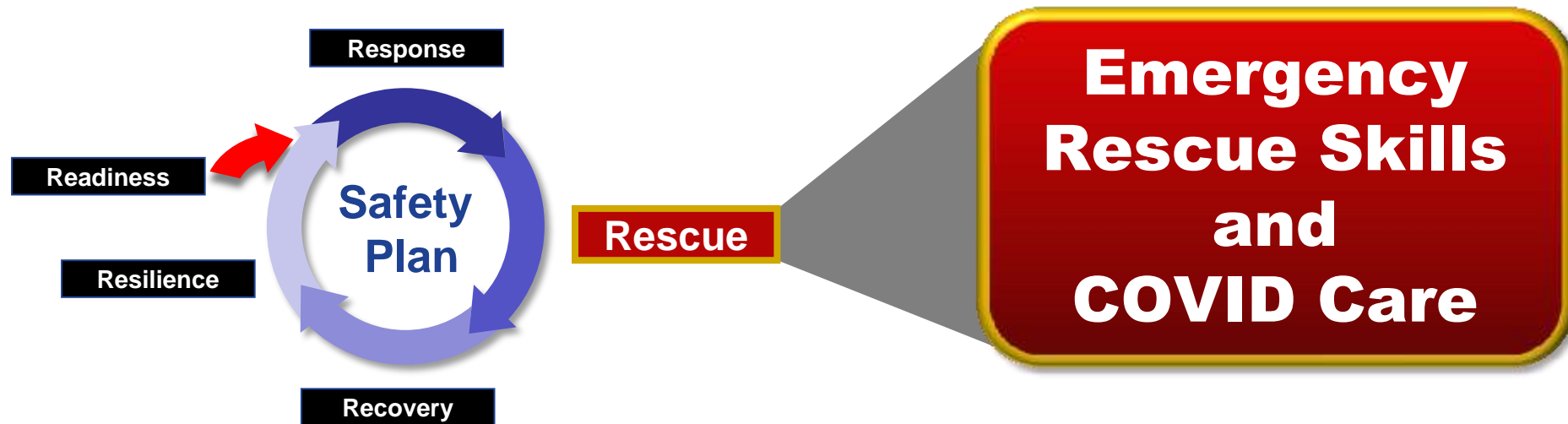


Dr. Gregory Botz



# Emergency Rescue Skills

## *A Survive & Thrive Guide™*



# What To Do – They're in the ICU

## *A Survive & Thrive Guide™*

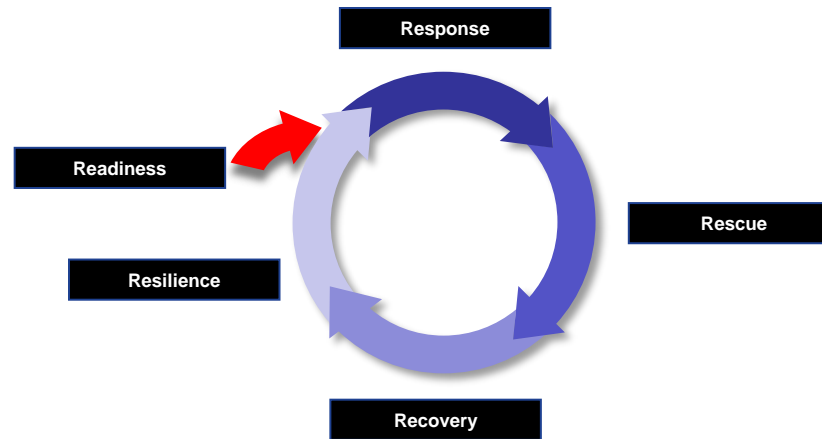


THE UNIVERSITY OF TEXAS  
**MD Anderson**  
~~Cancer Center~~

## Family Rescue R&D



**Stanford**  
University



**UCSF**  
University of California  
San Francisco



## The 5 R's of Safety

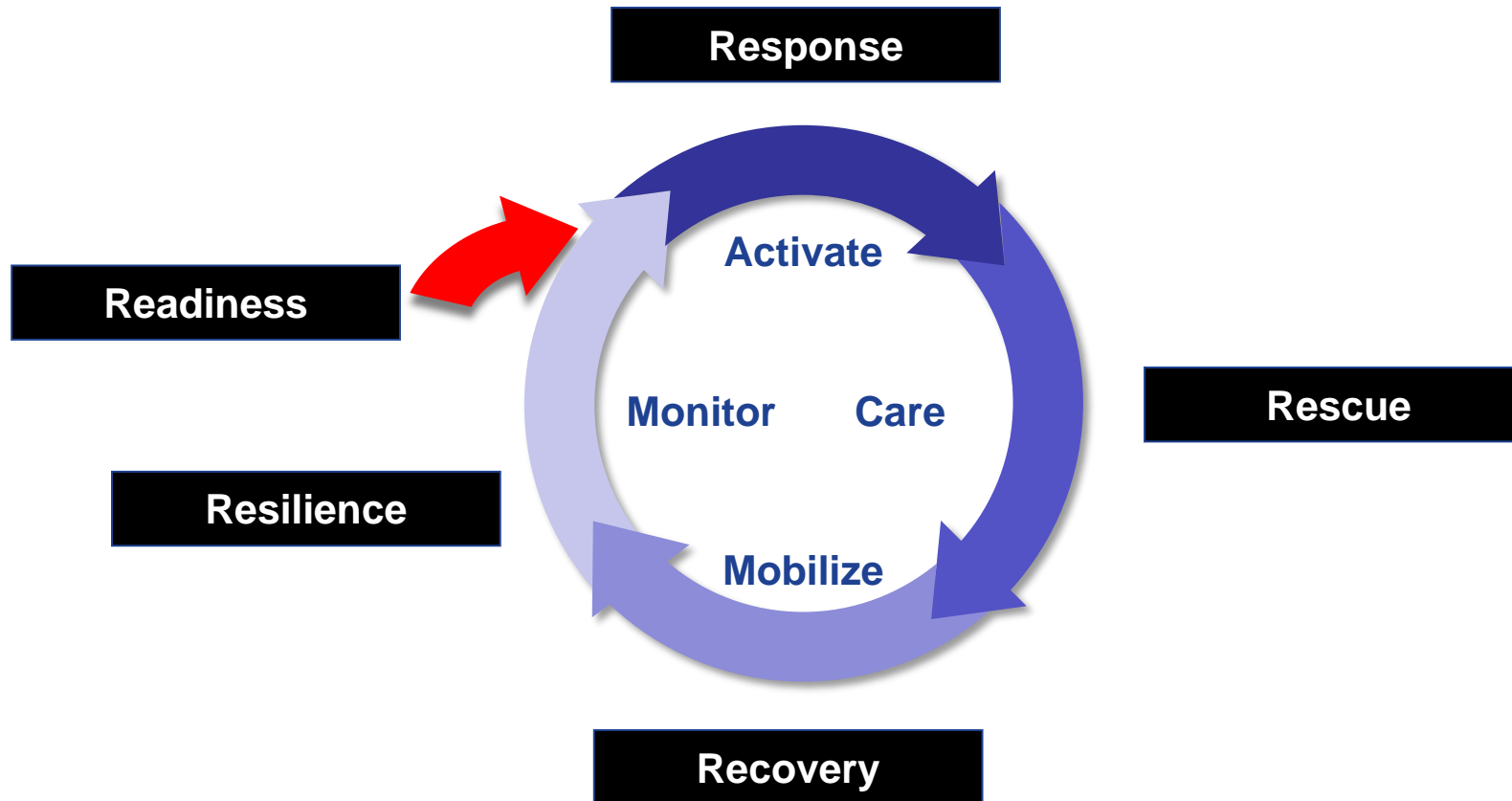
**UF** | UNIVERSITY of  
**FLORIDA**

**UT Southwestern**  
Medical Center



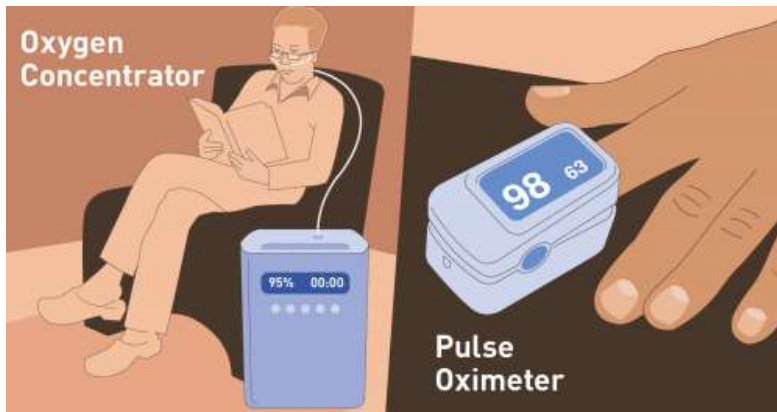
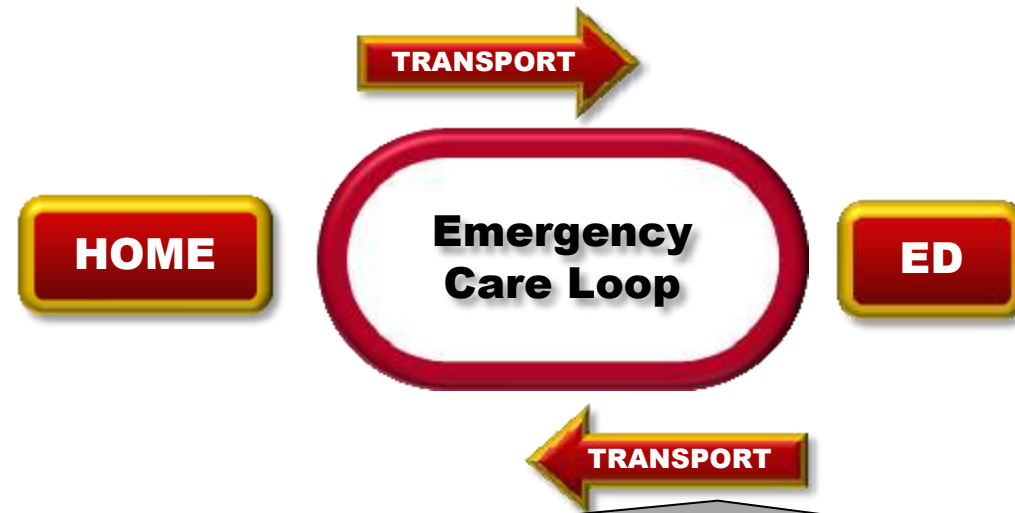


## ***Family Health Safety & Organization Security Plans™***





# Emergency Rescue Skills: After Discharge & Transport Home



# **Vaccines, Variants, and The Road to Victory: *A Survive & Thrive Guide™***



**Charles R. Denham III**

High School Student  
Co-founder Med Tac Bystander  
Rescue Care Program  
Co-lead Lifeguard Surf Program  
Junior Med Tac Instructor  
Certified Lifeguard

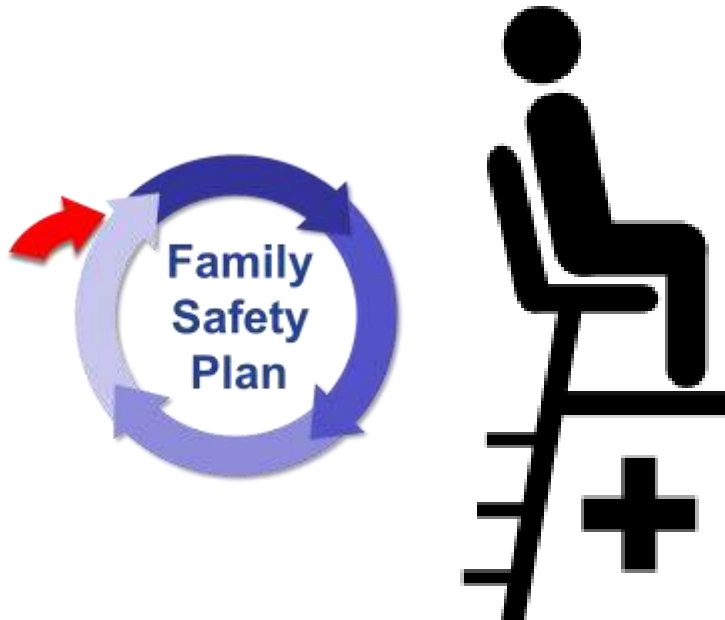


**David Beshk**

Award Winning Educator  
Med Tac Master Instructor  
Eagle Scout Advisor  
Merit Badge Counselor

# Be Your Family Lifeguard

90% Prevention and 10% Rescue



## Holiday Huddle Checklist

### The Goal - Prevent Bubble Trouble

Maintain the Four Pillars: Distance, Hand Hygiene, Disinfect Surfaces, and Mask Use

#### Before Event:

- ☐ Assign Tasks to Family Members
- ☐ Prepare Separate Family Bubble Portions
- ☐ Set Up Handwashing Stations
- ☐ Develop a Bathroom Plan
- ☐ Prepare Bathroom – Optimize Ventilation
- ☐ Maintain Kitchen Hygiene

#### During Event:

- ☐ Convene Holiday Huddle with Guests
- ☐ Opening Prayer
- ☐ Describe Safe Family Bubbles
- ☐ Review Four Safety Pillars
- ☐ Provide Restroom Plan
- ☐ Describe Eating Plan
- ☐ Summarize Clean Up Plan

#### After Event:

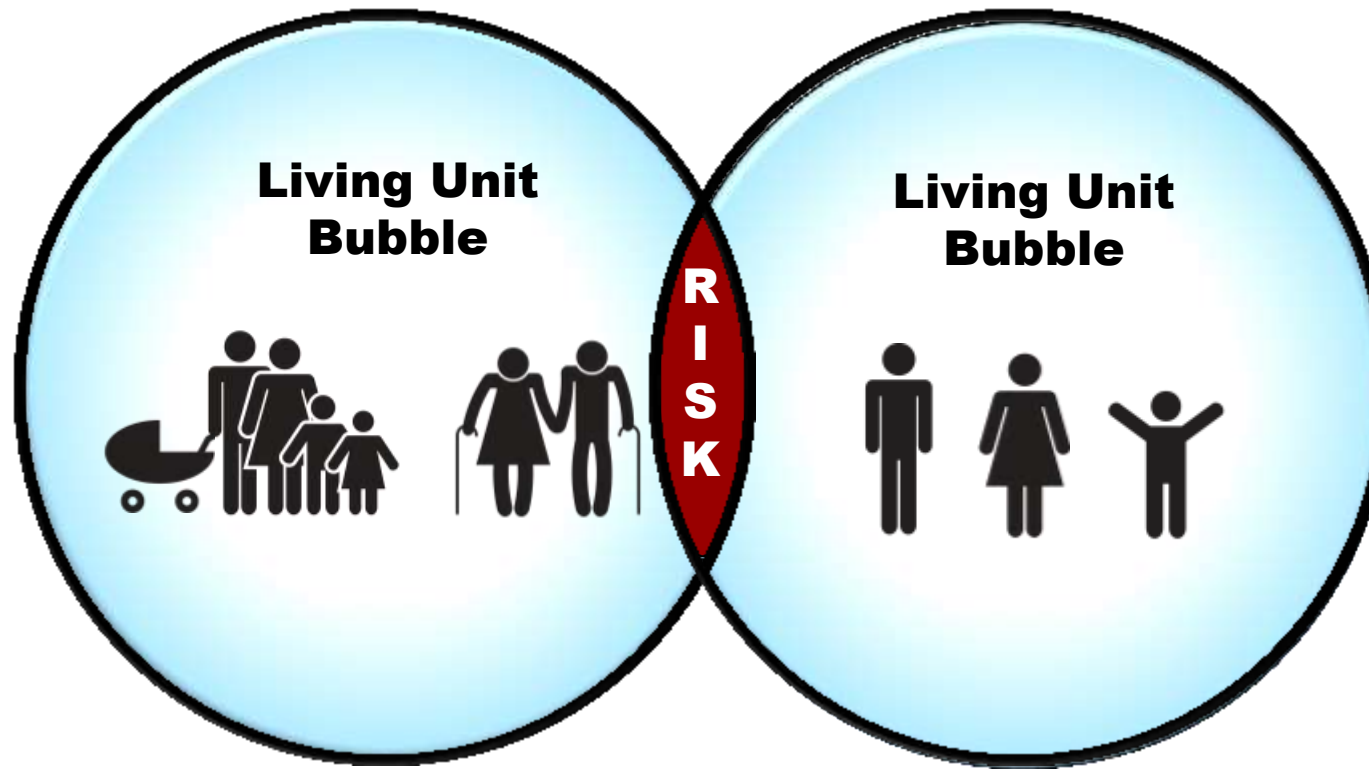
- ☐ Glove up to Clean Up
- ☐ Soak Plates and Cutlery in Soapy Water
- ☐ Wipe down surfaces touched by guests
- ☐ Wipe down bathroom used by guests
- ☐ Meet to de-brief to be safer next time

## “Double Bubble Trouble” Create Transmission Chains

### CDC Close Contact

#### Exposure Risks

- 15 Minutes within 6 feet over 24 Hours
- Provided Care to COVID-19 Infected
- Physical Contact (hugs & kisses)
- Use Same Cooking Utensil's
- Droplet Contact



### General Risks

- Indoor Events
- Poorly Ventilated Environments
- Common use bathroom facilities
- High Contact Surfaces not disinfected
- Common Food Access



# Spring Break, Ski Week, and Easter Vacations



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## Rescue

Family Member Scenarios	Care of loved on with severe symptoms.
No Exposure No Test or Negative Test	Know the triggers for emergency care. Have med records ready for family
Exposure to Infected Person and No Test	Know the triggers for emergency care. Have med records ready for family
Infected & Asymptomatic – No Symptoms Ever	Watch for the signs and symptoms triggering seeking emergency care.
Infected & Pre-symptomatic – Before Symptoms	Watch for the signs and symptoms triggering seeking emergency care.
Infected & Symptomatic – Have Symptoms	Watch for the signs and symptoms triggering seeking emergency care.
Infected & Severely Symptomatic – Need Help	Seek emergency care immediately. Have medical records and medications for ED care providers.
Infected & Requiring Hospitalization	Watch for triggers for emergency care of other family members who may get sick.
Infected & Require ICU Life Support Respirator & ECMO	Watch for symptom triggers requiring emergency care visit if others in family get sick.

## Rescue

## Family Plan Checklist

### Awareness

- ☐ **Family Rescue Scenario Awareness:** Members need to be aware of “rescue scenarios” and what the CDC describes as “emergency warning signs”:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Bluish lips or face

<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

- ☐ **Rescue Knowledge - 4 P’s:** Family members are aware of how to be prepared, prevent medical errors, protect loved ones, and learn performance improvement from caregivers.

### Accountability

- ☐ **Rescue Task Accountability Reinforced:** Everyone needs to know what, when, why, and how to respond when someone develops the CDC emergency warning signs.
- ☐ **Rescue Task Completion Log:** These recorded lifesaving tasks are vital to professional caregivers.

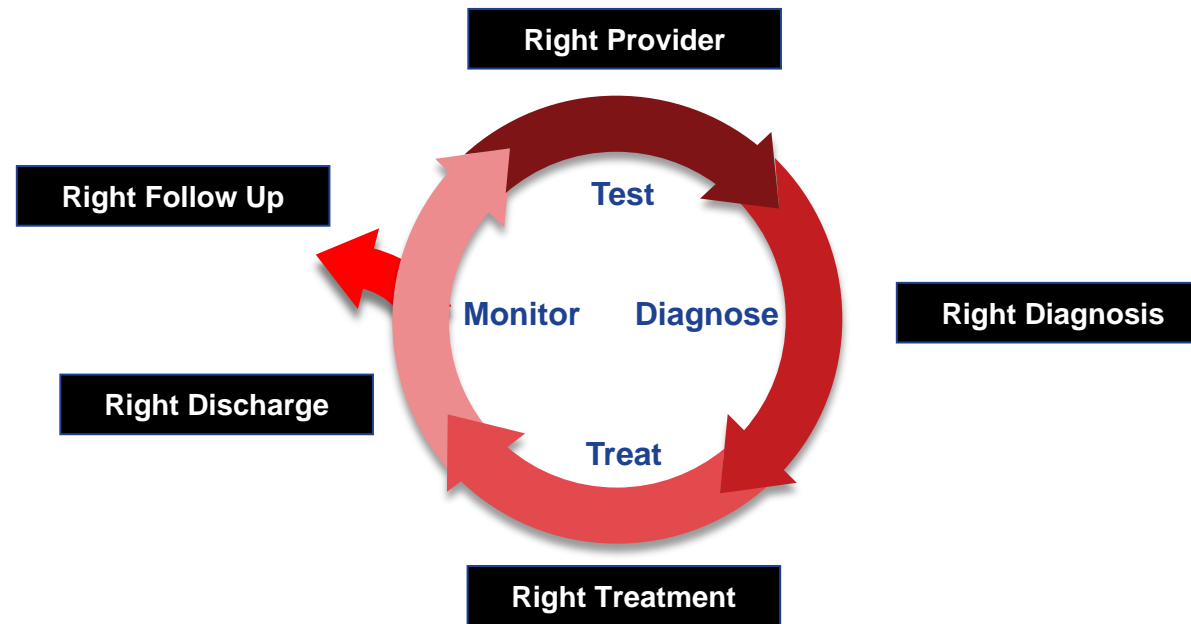
### Ability

- ☐ **Rescue Skills:** Care of an infected family member in isolation requires safe use of PPE, safe transportation, and protecting family members.
- ☐ **Rescue Resources:** Staff, supplies, space, and financial resources vital. Staff include family members and service providers. Adequate funding, PPE supplies, and disinfection resources are critical.

### Action

- ☐ **Follow the Plan for the Family Member Scenario:** Specific checklists for each scenario needs to be followed. The most important issue is that patients will have to be admitted to hospital alone.
  - ☐ **Infected & Severely Symptomatic – Need Help:** Emergency Sign recognition, safe transportation, safe communication with Caregivers are critical. See SBAR for Patients Communication Tool.
  - ☐ **Infected Requiring Hospitalization:** Communication with Hospital Caregivers will have to be by phone or mobile web device. Briefings with family members is ideal through one family member.
  - ☐ **Infected & Require ICU Life Support Respirator & ECMO:** The seriousness of the situation should be communicated to the family members.

# The 5 Rights of Emergency Care™



**Right Provider:** Patients and families need to choose the best emergency care provider they will use prior to experiencing an emergency.

**Right Diagnosis:** The right diagnosis depends on information – make sure to help the emergency care providers with all of the information you have to help them.

**Right Treatment:** It is important to understand both the short-term implications of emergency care as well as the long-term implications. An emergency medicine visit is a snapshot in time.

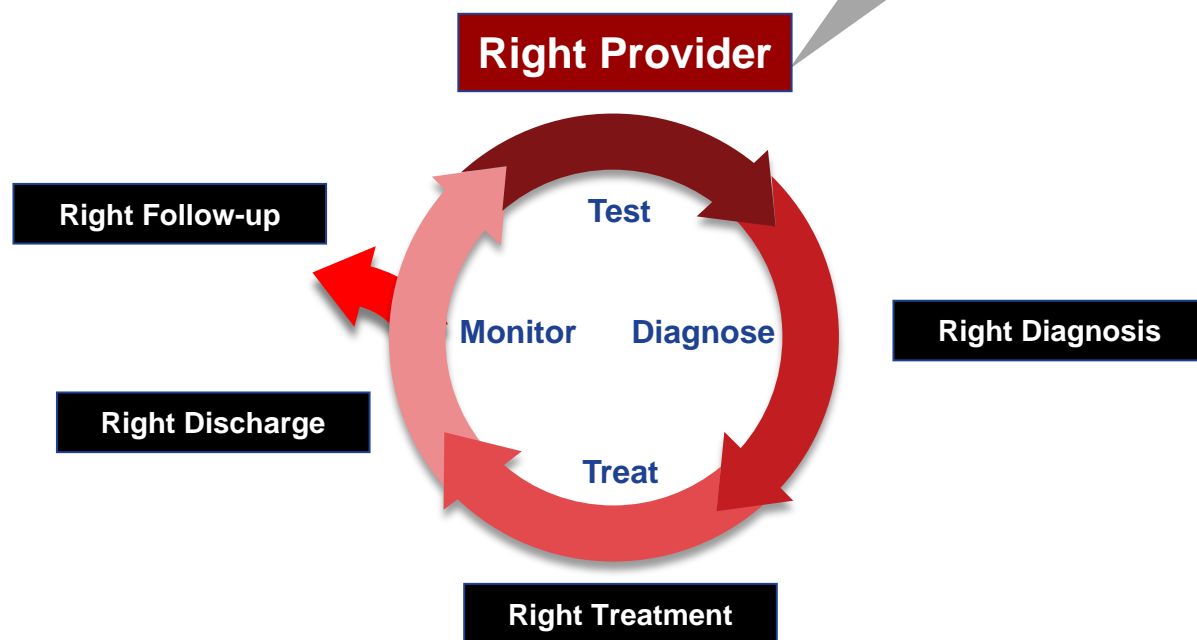
**Right Discharge:** A critical area for safety is the discharge from the Emergency Department. The information shared with the patient and family will have a major impact on the outcome of care. We need to understand why we may need to come back for care.

**Right Follow-up:** The continuity of care after an Emergency Medicine visit is very important to the long-term outcome of the care received. The breakdown in follow up is often an area of safety risk.

Source: Denham, CR

# The 5 Rights of Emergency Care™

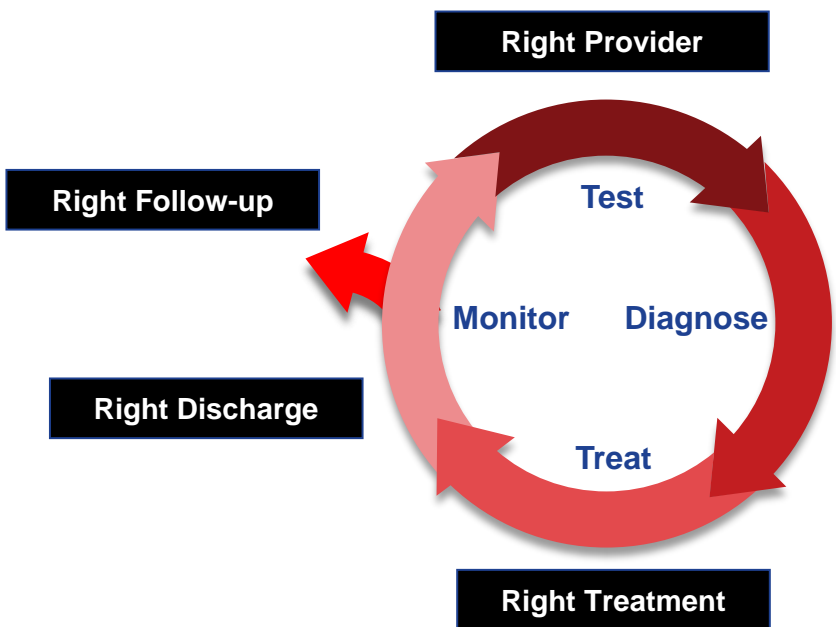
**Right Provider:** Patients and families need to choose the best emergency care provider they will use prior to experiencing an emergency.



- **Choose RIGHT Emergency Care Provider:** The one that already has your records, especially for complex issues
- **Your Choices:** Urgent Care, Community Hospital, Specialty Center – Pediatric, CA, Stroke Center Trauma Center...if you have a choice.
- **Bigger Centers – Bigger Problems:** when in doubt with serious problems the larger more comprehensive center may be best.
- **ICE – In Case of Emergency:** Make sure to always have your In Case of Emergency (ICE) contact in your wallet and on phone. First responders will look for it if you are in an accident.

Source: Denham, CR

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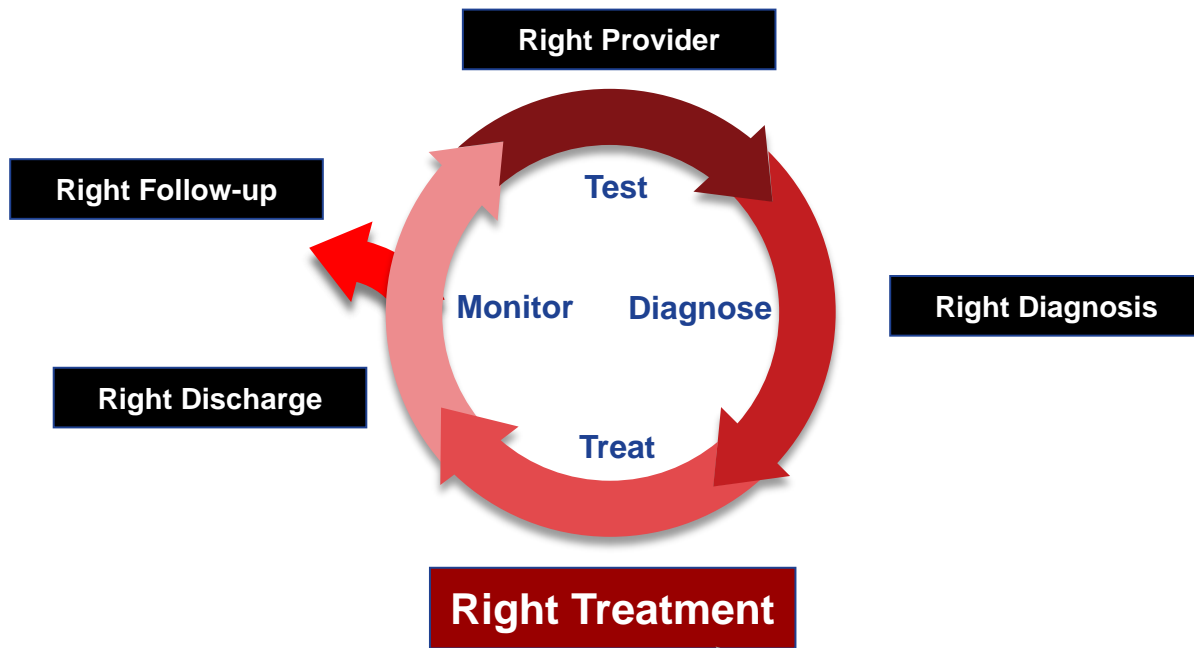
## Right Diagnosis

- **Bring Your Medical Records:** your prior hospital records and summaries of the latest care if you have them.
- **Bring your Care Plan** if you have one.
- **Bring Medications:** your actual medications in a bag and be prepared to describe how you take them.
- **Imaging Studies & Reports:** If you have imaging studies on disc which can prevent you from getting other studies.
- **Tests & Diagnosis:** Understand the tests the findings of the tests.

Source: Denham, CR



# The 5 Rights of Emergency Care™



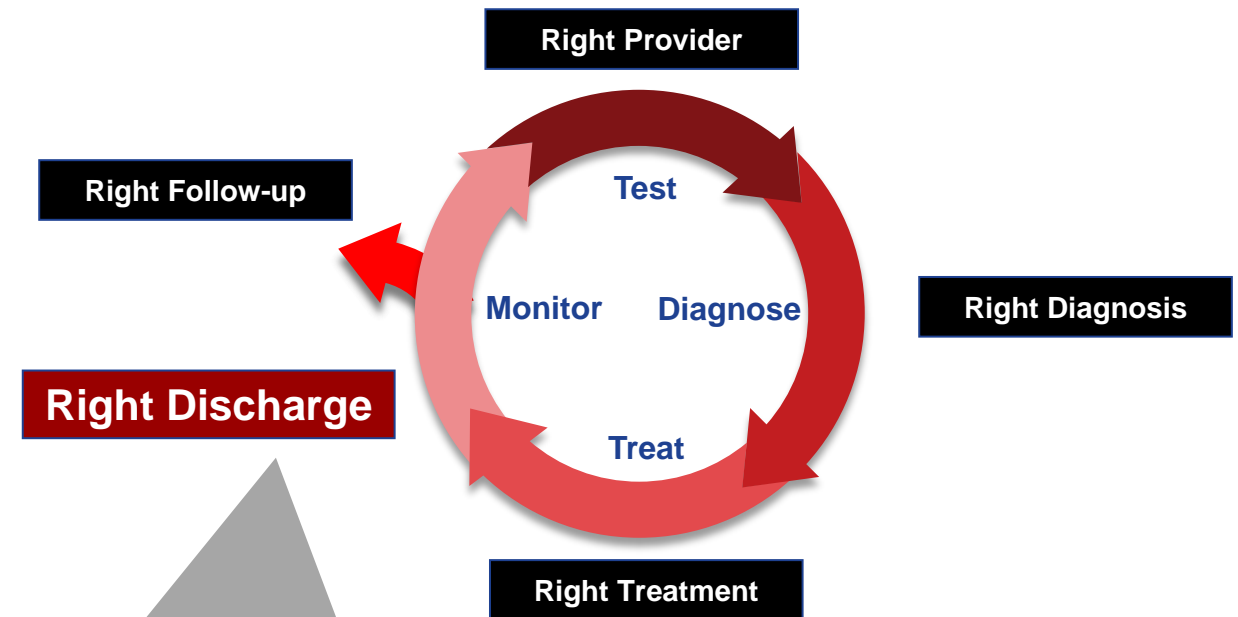
- **Treatment of Short-term Symptoms and of Long-term Conditions:** Procedures, medications, and new behaviors you need to maintain should be understood for the short-term and long-term timeframes.
- **Shared Decision Making:** Understand the treatment and decide together
- **Risks and Benefits:** Understand the risks and the benefits of proposed treatment.
- **Hospital Admissions:** Understand why you might be admitted for care in the hospital versus what would be required for care at home.

**Right Treatment:** It is important to understand both the short-term implications of emergency care as well as the long-term implications. An emergency medicine visit is a snapshot in time.

Source: Denham, CR;

- **Return Precautions:** Understanding when to come back to ED — signs and symptoms to return. Care is never over during the visit. This is a vital safety area and we often wait too long before returning.
- **Understanding What Happened:** The Medical Problem, Diagnosis, and Treatment must be understood to make sure to have long-term results.
- **Medication Reconciliation:** The stops, adds, and changes in medications must be understood.
- **Records Reconciliation:** Assembling and summarizing the latest records are vital.
- **Care Plan:** Wound care, diet, and special instructions need to be understood.
- **Get the Records:** All of the records of the visit including imaging should be obtained and maintained at home – even if releases are required and in the following days to get the records.

## *The 5 Rights of Emergency Care™*



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**Right Follow-up:** The continuity of care after an Emergency Medicine visit is very important to the long-term outcome of the care received. The breakdown in follow up is often an area of safety risk.

- **WHO, about WHAT, and WHEN:** In follow up we need to understand who we need to see as a caregiver, about what issues, and when we need to see them.
- **Update Your Records:** You will want to update your home records with the follow up visit records for future reference.
- **See New Caregivers:** You may need to see a new doctor and the records from primary care, ED visit, medications lists, and imaging studies will all be important.

Source: Denham,

## *The 5 Rights of Emergency Care™*

