



University of Colorado **Boulder**

Participatory Convergence: Advancing Science and Reducing Risk Through Community Participation



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NSF Award #1635593 and #1841338



Natural Hazards Center



CONVERGE

Participatory Convergence

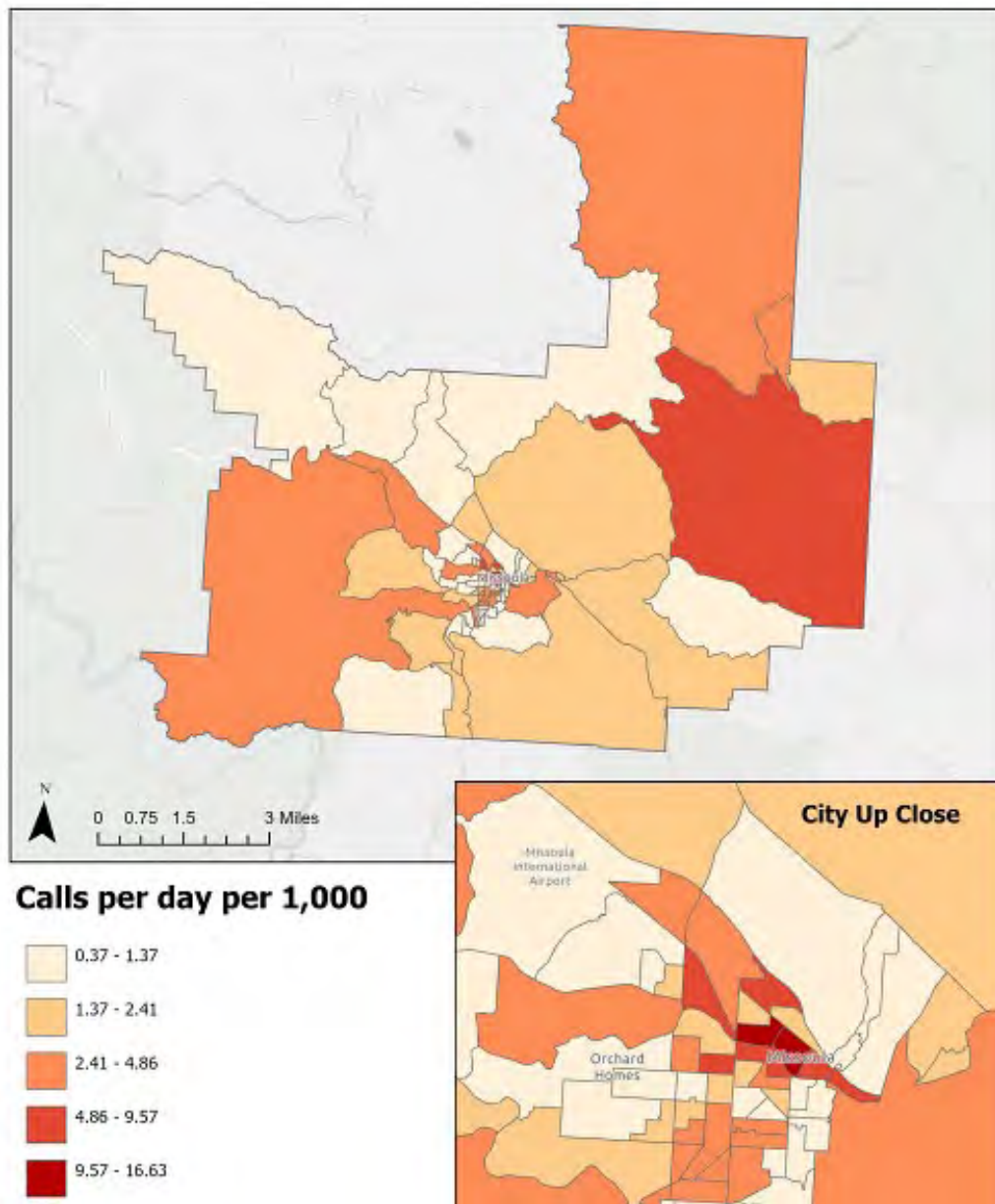


Public Health Implications of 911 Calls During Heat and Smoke Events

*“The genesis of this study is rooted in a **specific and compelling problem identified by the Missoula County Office of Emergency Management and Missoula City-County Health Department...***

*Specifically, Missoula County leaders suspected that the **number of 911 calls increased** during days with extreme temperatures or poor air quality. They also thought that those calls may be **originating from communities with higher rates of social vulnerability...***

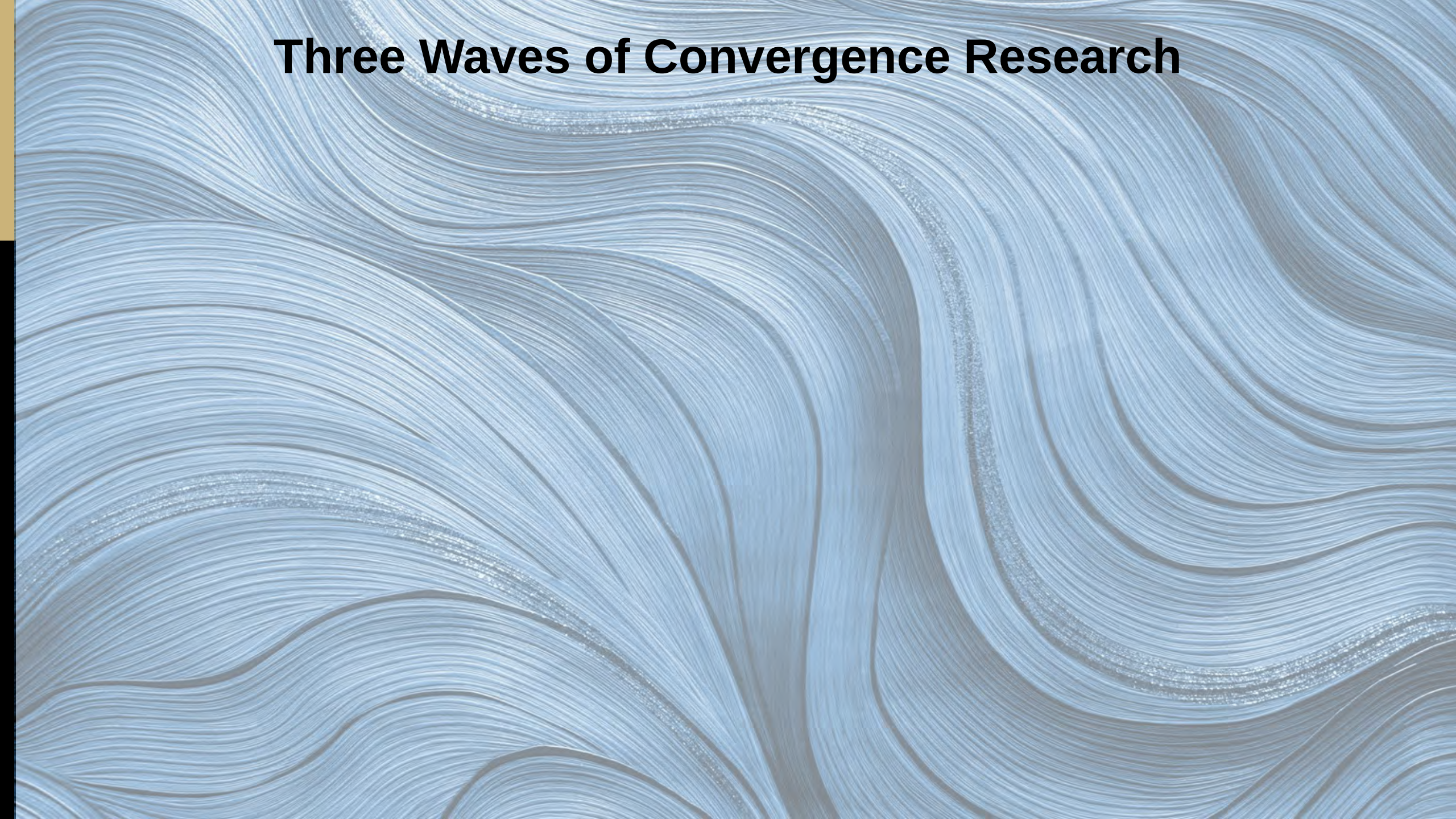
*In this study, we set out to provide evidence as to whether heat and poor air quality events were linked to increased 911 calls and illuminate **how Missoula County can direct pre-disaster interventions to ensure more equitable public health outcomes.**” Barsky, McKeague, et al., 2024*



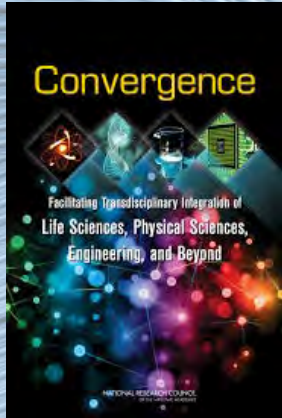
Average 911 Calls Per Day Per 1,000 by Census Block Group, Missoula County, Montana, 2020

Source: <https://hazards.colorado.edu/public-health-disaster-research/public-health-implications-of-911-calls-during-heat-and-smoke-events>

Three Waves of Convergence Research

The background of the slide is an abstract pattern of wavy, horizontal lines in various shades of blue and white, creating a sense of movement and depth. The lines are dense and layered, giving the impression of a textured surface or a dynamic, flowing environment.

Three Waves of Convergence Research



Fundamentals of Convergence:

- ❖ Problem Focused,
- ❖ Solutions Based,
- ❖ Deeply Interdisciplinary

“... social sciences and humanities are undertapped resources for convergence efforts” (National Research Council, 2014).

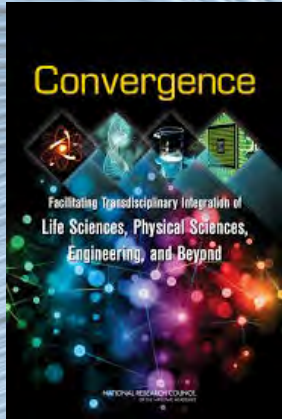
*This “... represents an important gap... Many of the grand challenges ... of pressing concern ... are, at their core, **moral, ethical, social, and political problems** that require the expertise of those skilled in the study of culture, history, policy, finance, and human behavior” (Peek, Tobin, Adams, Wu, Mathews, 2021).*



Wave 1 (~late 1990s/early 2000s onward)



Three Waves of Convergence Research



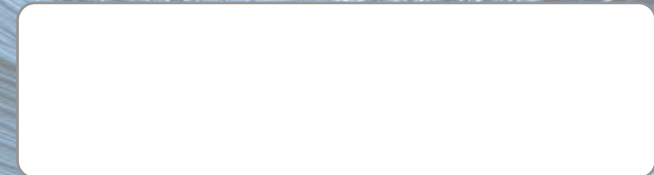
National
Science
Foundation



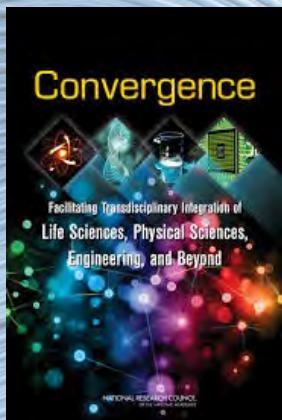
Wave 1 (~late
1990s/early 2000s
onward)



Wave 2 (~2016 onward)



Three Waves of Convergence Research



***Participatory
Convergence***



Wave 1 (~late
1990s/early 2000s
onward)



Wave 2 (~2016 onward)



Wave 3 (~2022 onward)

Societal transformation requires that scientific innovations are received, understood, and implemented by researchers, practitioners, and policy makers and, most importantly, the communities and populations most impacted by the problems to be addressed.



Key Principles of Participatory Convergence

Innovative Solutions

Approach



*“Our preliminary analysis uncovered a significant difference between frontline worker experiences of burnout during Hurricane Irma, Hurricane Maria, and COVID-19... Specifically, **emotional exhaustion and compassion fatigue** were at the core of psychological challenges faced by USVI frontline government workers during disasters... Organizational activities that support emotional well-being, personal accomplishment, and compassion satisfaction can be used to **reduce work-related burnout within disasters.**” – Francis et al., 2021*



Source: <https://hazards.colorado.edu/public-health-disaster-research/frontline-government-workers-assessing-post-disaster-burnout-and-quality-of-life>

Frontline Government Workers: Assessing Post-Disaster Burnout and Quality of Life

Collaborations with Community Partners

Virgin Islands Police Department, Virgin Islands Fire Service, Virgin Islands Department of Human Services, Virgin Islands Territorial Emergency Management Agency, Department of Licensing and Consumer Affairs, Virgin Islands Bureau of Motor Vehicles, Department of Planning and Natural Resources, Roy Schneider Regional Hospital, Juan F. Luis Hospital

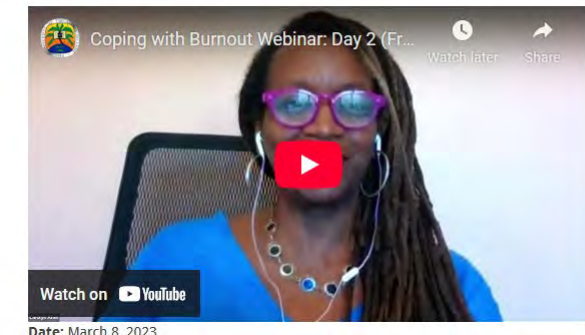
Coping With Burnout Day 1: For Managers

This webinar engaged commissioners, directors, and supervisors of frontline government workers in the U.S. Virgin Islands.

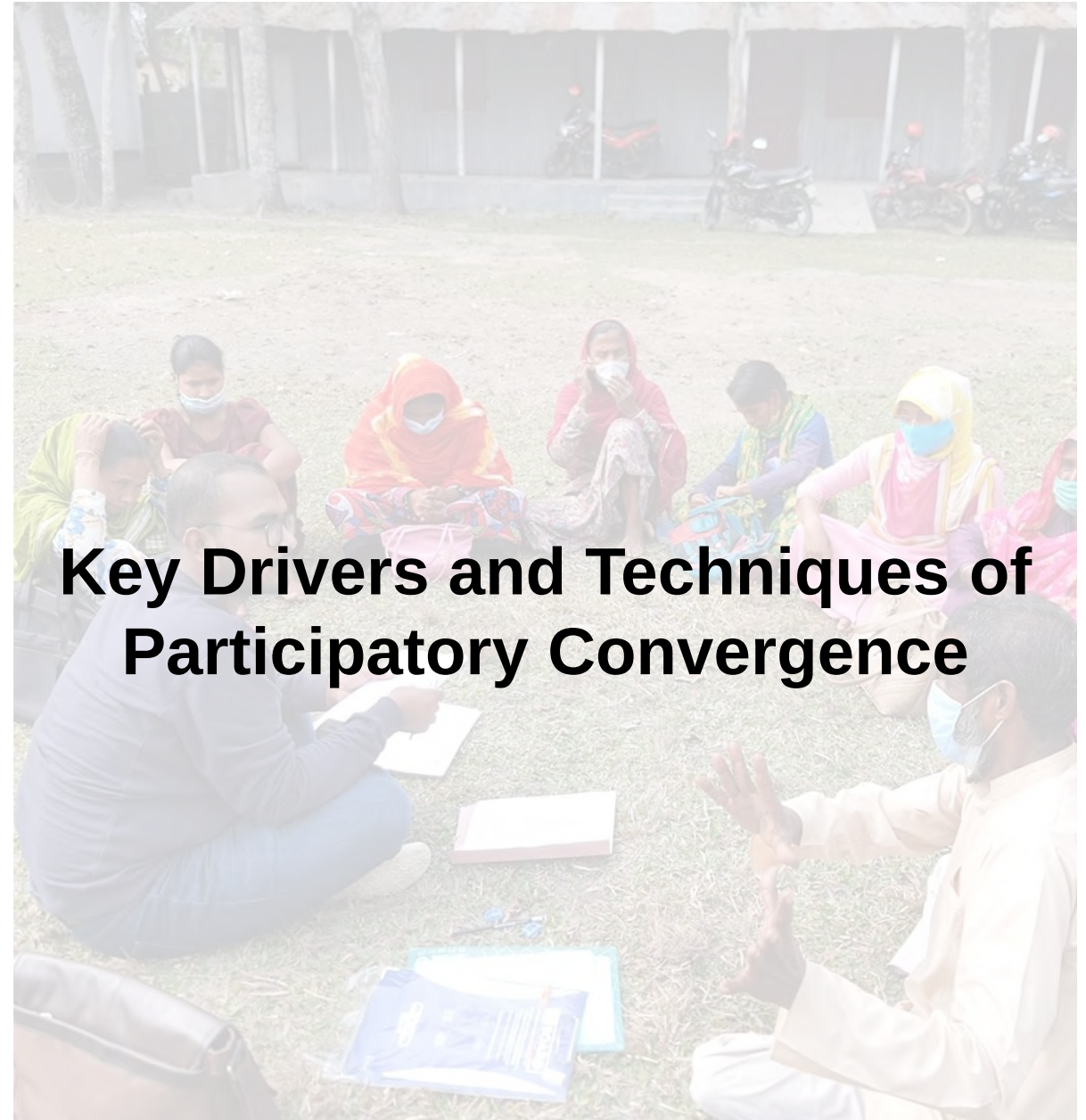


Coping With Burnout Day 2: For Frontline Government Workers

This webinar presented expert advice, recommendations, and support to frontline government employees who struggle with issues of burnout in the U.S. Virgin Islands.







Key Drivers and Techniques of Participatory Convergence

THANK YOU



Questions? Contact:
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