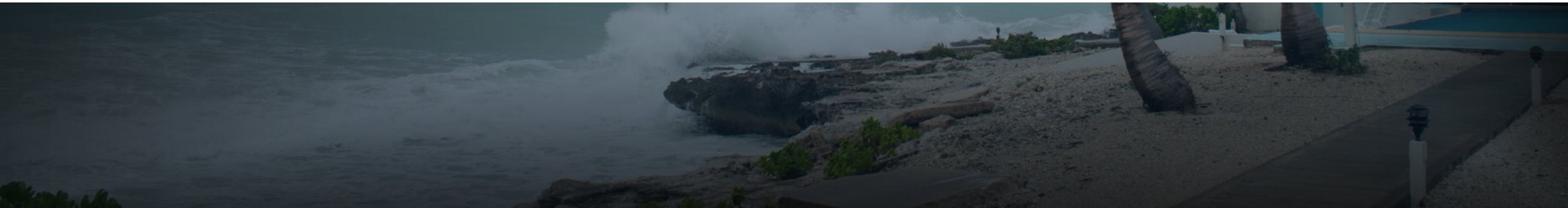


Pocket Ark



Background: Hurricane Harvey

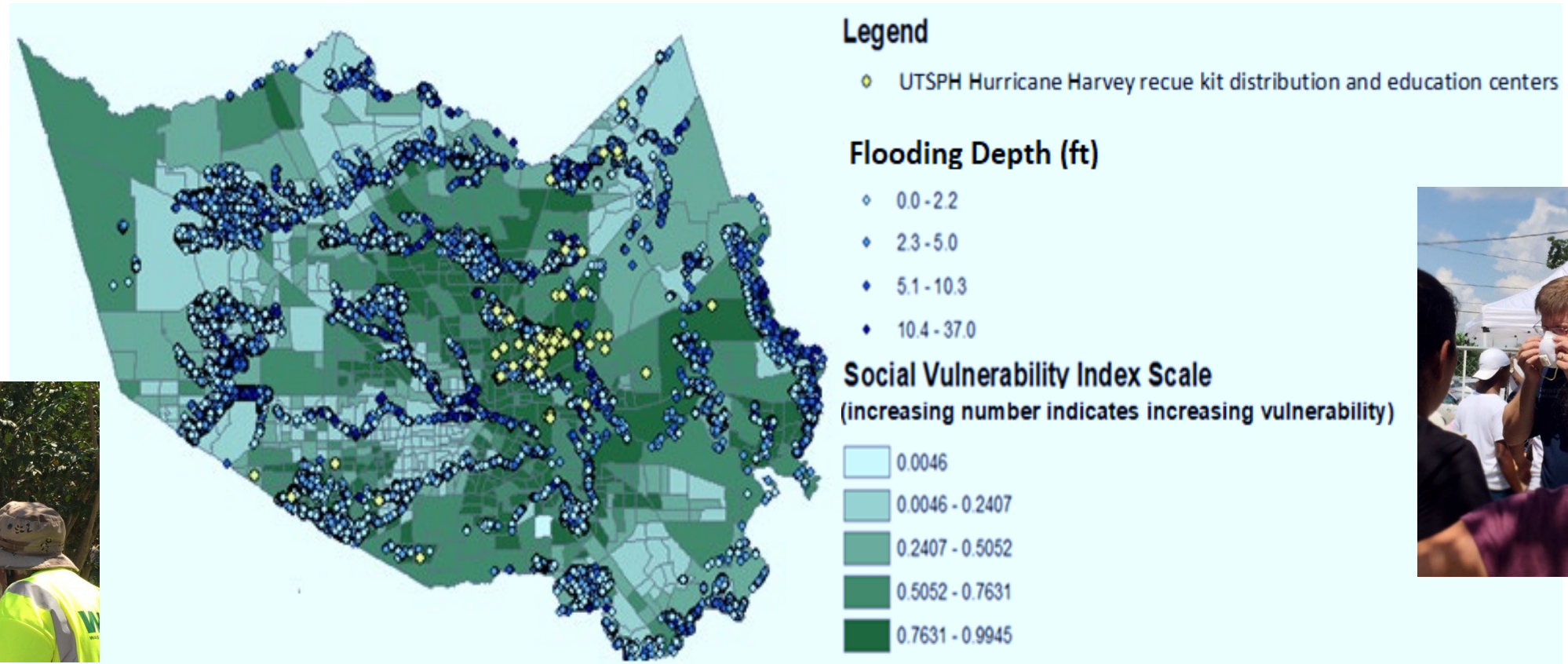
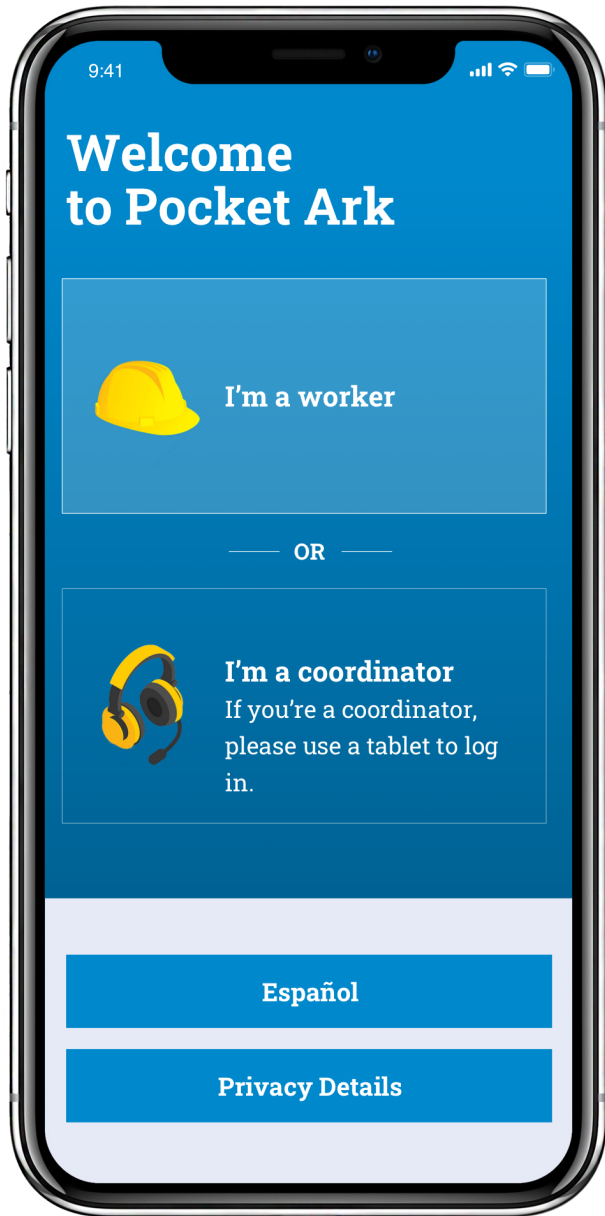


Figure 2. Assessment of flooding depth within residences in Harris County in relation to the Social Vulnerability Index



What did we learn?

- **Significant Health Risks Associated with Cleanup**
- **Limited Safety Training for Workers**
- **Exploitation Risks:** At risk for wage theft, security
- **Logistical challenges**



Agile development of innovative, interactive hazard recognition and mitigation tools/learning e-platforms for workers involved in the rescue and recovery operations in diverse flooding environments.

...also known as...

Pocket Ark

Phase I SBIR funded by
National Institute of Environmental Health Sciences (NIEHS)

Grant #R43 ES030580



Pocket Ark Use Cases

Pre-Deployment

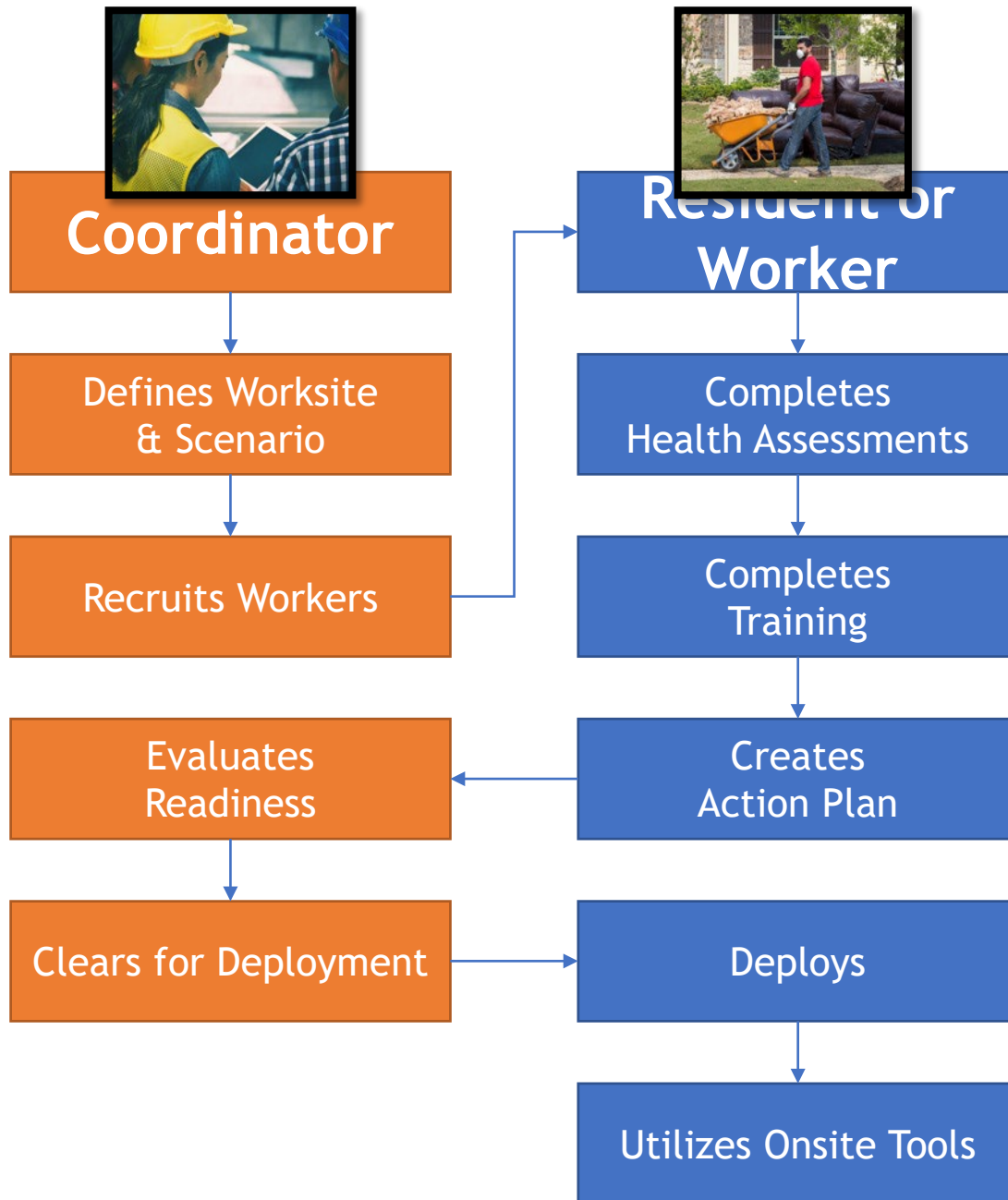
- **Training** augmentation
- **Readiness** assessment
- **Health** assessment

Deployment

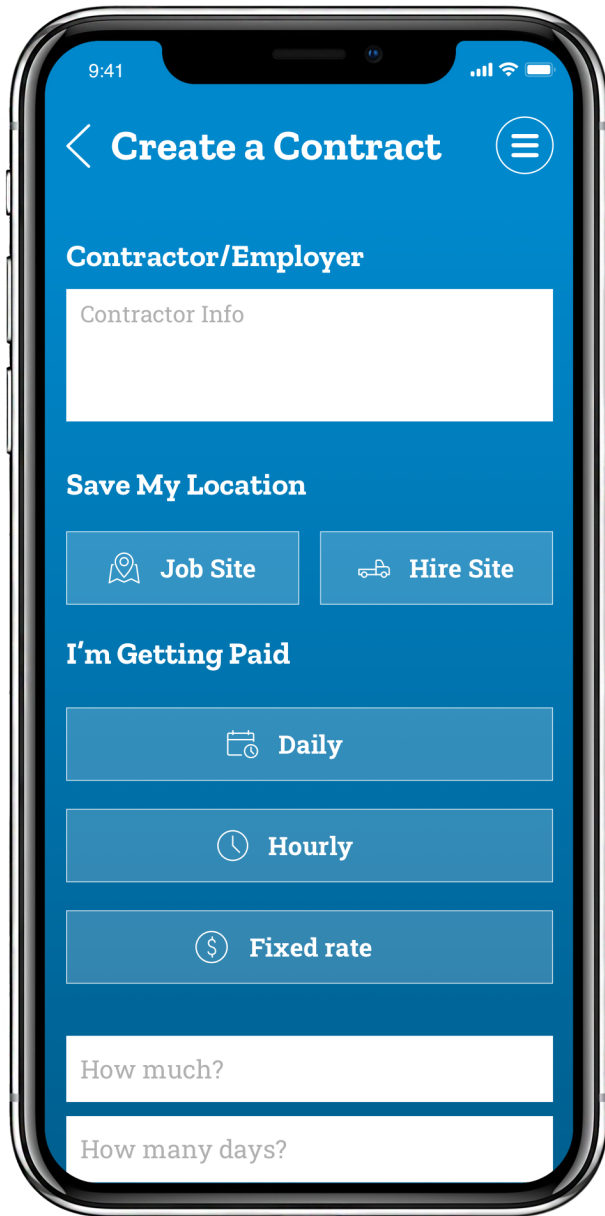
- Training augmentation
- Deployment **coordination**
- Push **communication**
- Resource coordination
- **Hazard identification**

Post-Deployment

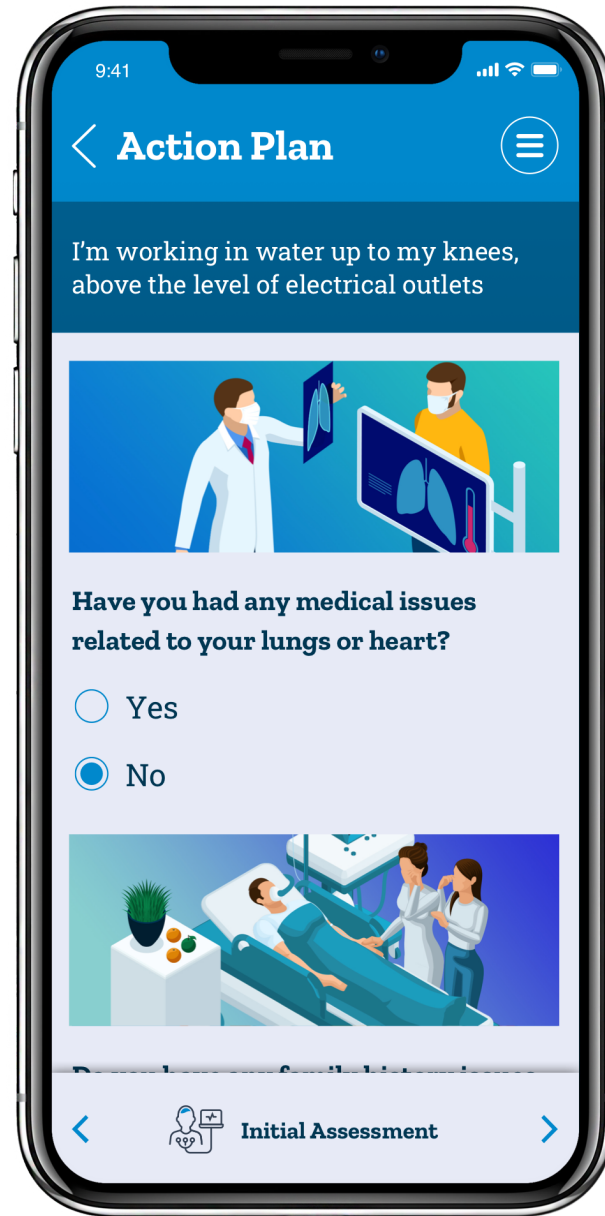
- Training augmentation
- **Continued health assessments**



Example Usage Scenario: Post-Disaster Worker Deployment



Worker Protection

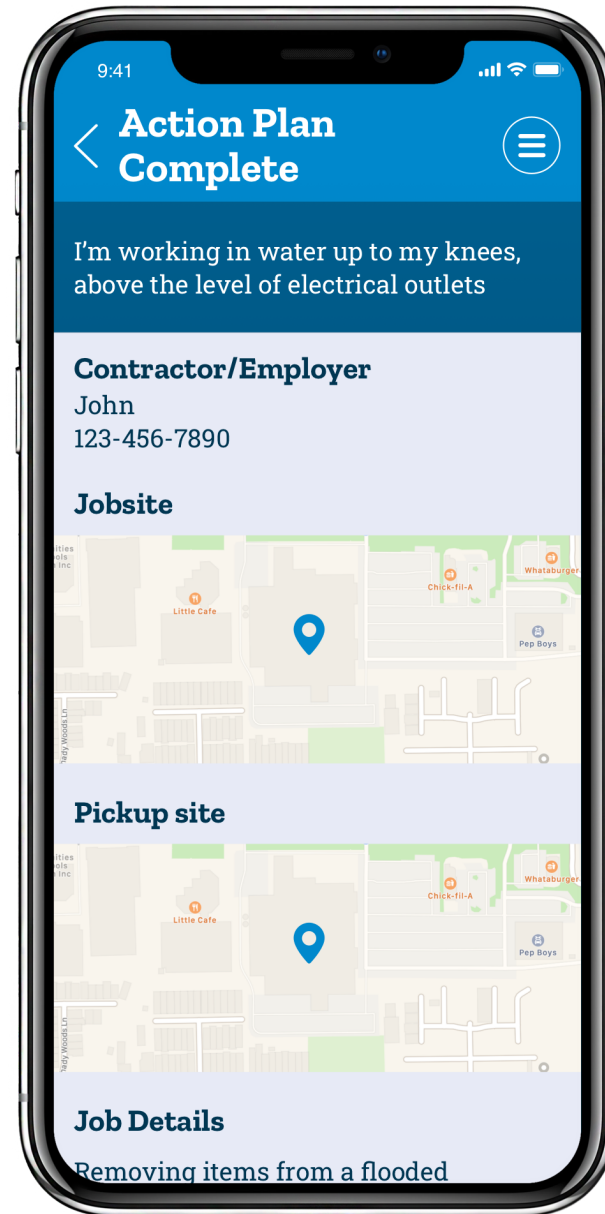
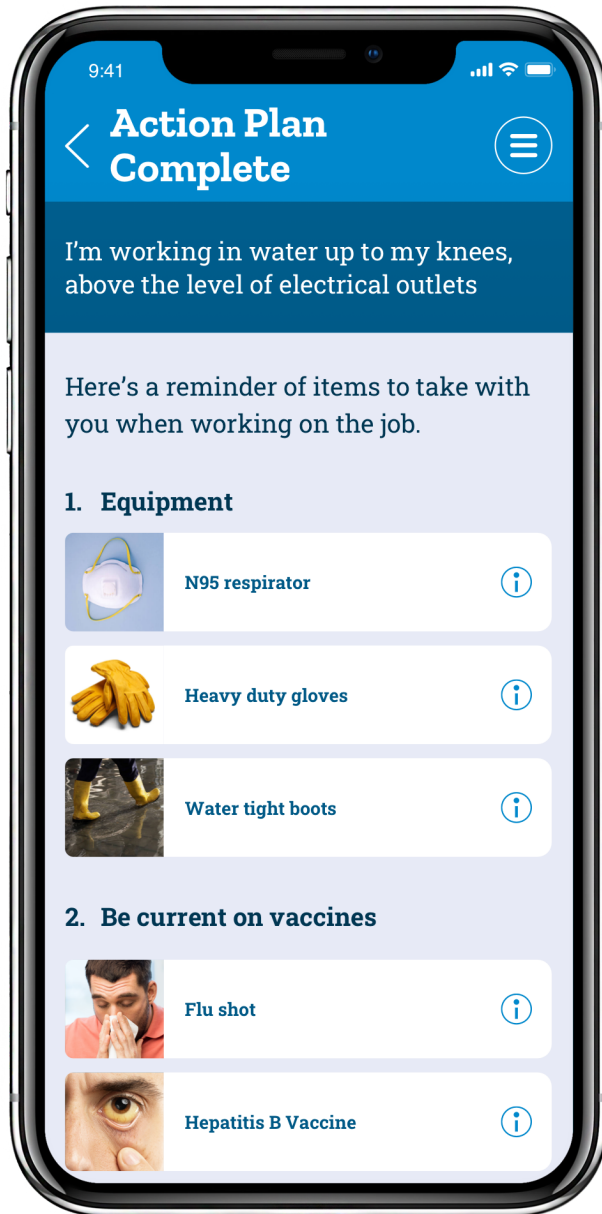


Health Risk Assessment



Pre Deployment Assessment, training, & action plan

Scenario: I'm a WORKER being recruited or deployed to help with post-flood cleanup.



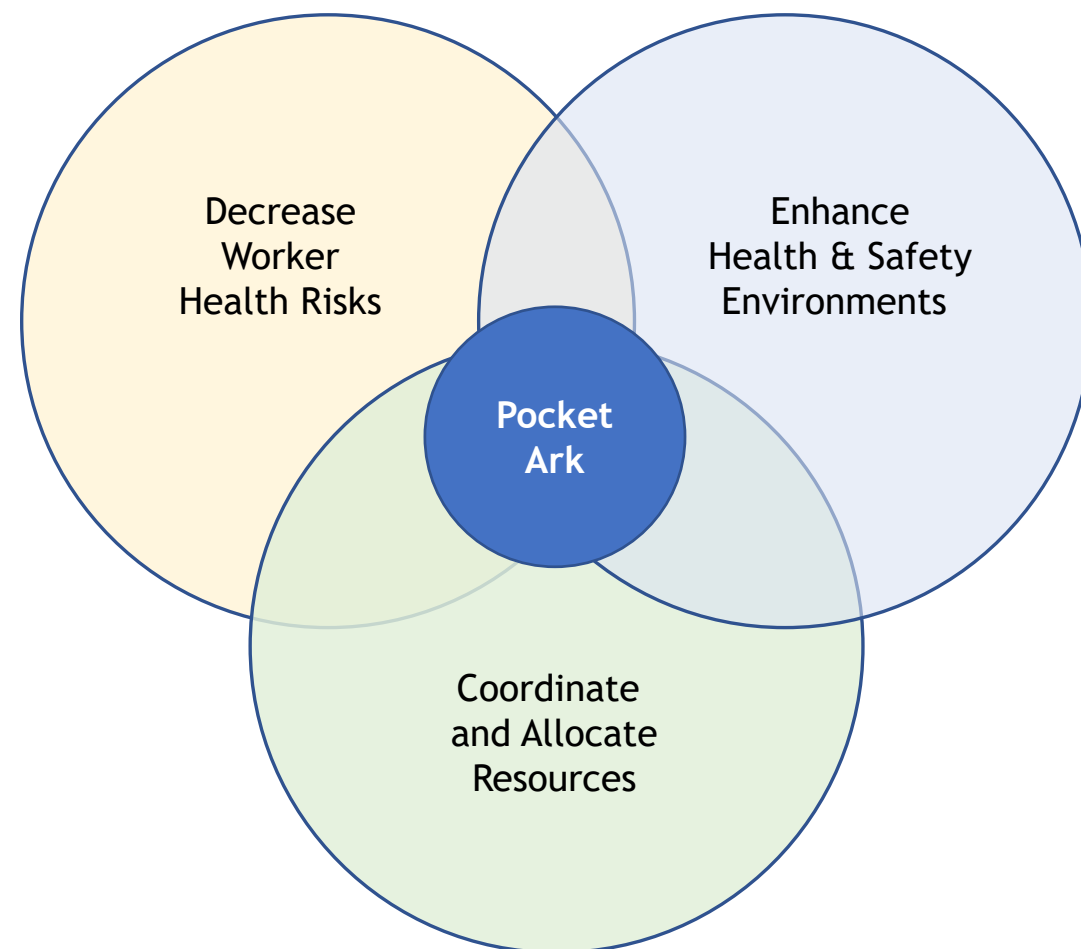
Deployment Assessment, training, & action plan

Scenario: I'm a WORKER being recruited or deployed to help with post-flood cleanup.

Action Plan Recommendations

Stakeholders & Potential Users

- **Workers**
- **Community Organizers**
- **Advocacy Organizations**
- **Public Health Agencies**
- **Government Agencies**
- **Construction Industry**
- **Other Disaster Preparedness/Relief Organizations**





Project Roadmap

2020 - 2021

Phase I

Discovery

Completed

- Prototype Design
- Feasibility/Usability
(publication pending)

2022 - 2023

Phase II

Evaluation

In Progress

- Full System Development
- Scaled Evaluation
- Phase III Planning

Expert Key Informants
Evaluation Partners
Commercialization Partners

2023-2024

Phase III

Commercialization

- Development
- Scaled Dissemination
- Program Integration

References

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- [The Post Hurricane Harvey Respiratory Protection Training Program](#); Li, Yiyao ; Bakos-Block, Christine ; Rammah, Amal ; Magal, Rotem ; Adekanye, Joel ; Esquenazi, Shari ; McDaniel, Michelle R ; Zhang, Kai ; Symanski, Elaine ; Perkison, William B; Journal of occupational and environmental medicine, 2020-08-05, Vol.Publish Ahead of Print ; <https://pubmed.ncbi.nlm.nih.gov/32769779/>

Funding for this project was also provided by the Southwest Center for Occupational and Environmental Health (SWCOEH), a NIOSH Education and Research Center, and awardee of Grant No. 5T42) H008421 from the National Institute for Occupational Safety and Health (NIOSH)/ Centers for Disease Control and Prevention

Q&A

