Final Report

Stakeholder Needs Assessment

Southeastern Coastal Center for Agricultural Health and Safety

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For More Information

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Contents

Background

The occupational risks for farmworkers, fishers and forestry workers in the coastal southeast are numerous. Farmworkers who harvest fruit, vegetables, and ornamental plants by hand frequently bend, crouch, and lift to carry crops and tools weighing as much as 90 pounds. They can be exposed to pesticides sprayed on crops and are at risk for injuries caused by farm machinery. Fishers also labor under hazardous conditions, and transportation to a medical facility can be difficult if they are injured while on the water. Most fatalities for fishing industry workers are from drowning, but injuries can also be caused by malfunctioning fishing gear, entanglement in fishing gear, slippery decks, strong currents, tidal surges and waves washing over the deck, and collisions. Forestry workers face risks using heavy logging equipment, as well as risk of injury from the massive weights of falling, rolling and sliding trees and logs. Transporting logs from harvesting sites to processing sites can also lead to injuries in forestry workers. Farmworkers, fishers and forestry workers generally work outdoors in all kinds of weather, leading to major concerns in Florida, other southern states and the Caribbean about the impact of heat stress on workers, particularly in the setting of recent increases in number of days with temperatures above 90 degrees F.

In response to these issues, the Southeastern Coastal Center for Agricultural Health and Safety (SCCAHS) was established in 2016 as part of a Centers for Disease Control and Prevention (CDC) / National Institute for Occupational Safety and Health (NIOSH) Agricultural Health and Safety Initiative. SCCAHS explores and addresses the occupational safety and health needs of people working in agriculture, fishing, and forestry in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Puerto Rico, and the U.S. Virgin Islands. SCCAHS focuses specifically on the unique environments and occupational communities of this region (e.g., hot, humid climate and coastal/coastal plains with farming and fishing and timber). SCCAHS is a multidisciplinary partnership of academic institutions, community organizations, and industry representatives that brings together individuals and organizations that are already pursuing academic and applied basic research, intervention, translational, and outreach solutions to occupational illness and injuries. SCCAHS provides centralized regional infrastructure where these individuals, organizations and companies can engage in mutual learning, leverage resources, build on previous efforts of colleagues, and promote new research.

SCCAHS is committed to stakeholder involvement, and uses Community Based Social Marketing (CBSM) approaches to identify barriers and benefits to engaging in socially desirable behaviors, followed by using the results of that research to formulate education and outreach strategies. In support of this approach, the SCCAHS Evaluation Program and Outreach Core conducted a needs assessment survey to gather information from people involved in all aspects of the agriculture, fisheries and forestry industries. These data will be used to orient the SCCAHS Outreach Core, Planning and Evaluation Core, research projects, and Emerging Issues Project to important issues within agriculture, fisheries and forestry fields, and will help guide future research, outreach, and communication strategies.

Methods

To determine which questions would be included in the needs assessment survey, the Evaluation Program approached SCCAHS team members with the research projects, Outreach Core and Emerging Issues Program to solicit key questions to be included. Team members submitted their key questions to the Evaluation Program. The key questions were then compiled, organized and refined in a needs assessment survey consisting of 55 items, most of which were open response. Feedback about the needs assessment survey was received from all the SCCAHS teams.

To recruit participants, the Outreach Core developed a partial list of potential needs assessment participants in the Southeast and Caribbean. The Evaluation Program rounded out that list by gathering contact information for individuals at agriculture, fisheries and forestry organizations, companies and institutions. Additionally, the Evaluation Program contacted County Extension Directors and Agriculture Extension Agents in Florida, as well as Sea Grant Directors and Agents in the Southeast. Finally, SCCAHS team members reached out to individuals they knew personally on the stakeholder contact list, and asked them to complete the survey.

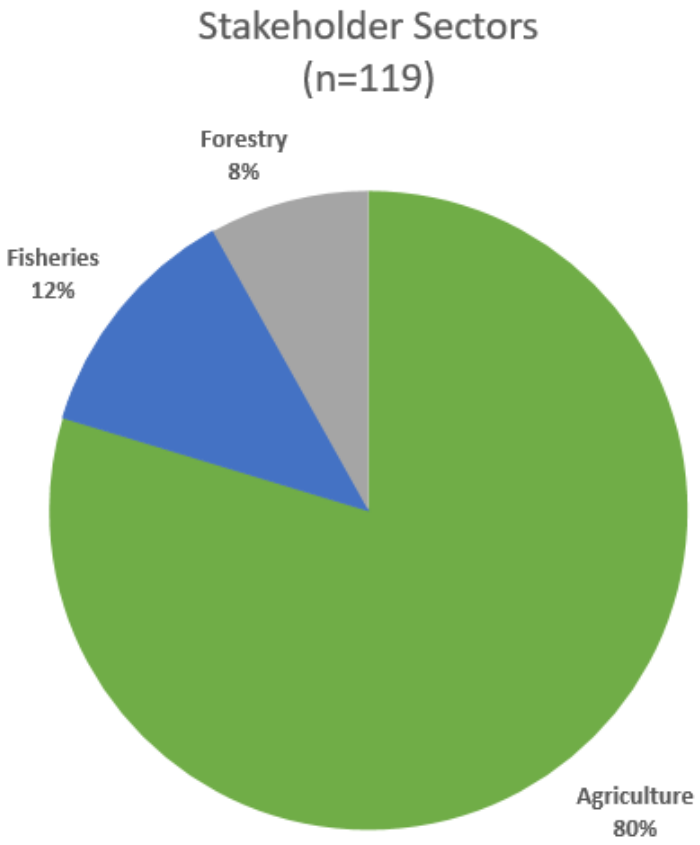
Data were collected in three phases over the course of eight weeks, from May 30, 2017 to July 24, 2017. Participants were sent personalized survey links, which kept their responses confidential but allowed individuals to be identified. The last item of the survey asked respondents to recommend a "snowball contact"-- a colleague who they believed should be included as a participant. Phase 1 included initial contacts; Phase 2 included individuals being considered for participation on the SCCAHS Community Stakeholder Advisory Board, contacts from Puerto Rico, and snowball contacts from Phase 1; and Phase 3 consisted of snowball contacts from Phase 2. Open responses were organized according to theme and category. They were coded, entered into SPSS and included in descriptive analysis along with quantitative items.

The survey sample of participants is a limitation in this needs assessment. The agriculture sector is over-represented in the survey sample, making up 80% of participants. Though seven states and one territory were represented, the majority of respondents (66%) were from Florida. Furthermore, almost half of the respondents are Extension stakeholders (47%). Perspectives from the fisheries and forestry sectors, as well other types of stakeholder groups, are not as well-represented in this report. The stakeholder representation in this needs assessment is indicative of longstanding relationships that SCCAHS faculty and staff have with stakeholders in the agriculture sector. Likewise, SCCAHS is housed at the University of Florida, a land grant institution closely connected with both university and county Extension faculty. Moving forward with this project, SCCAHS is being presented new opportunities to create and strengthen relationships in the fisheries and forestry sectors, as well as with stakeholders in academia, public agencies, regulatory agencies, industry, and the non-profit sector.

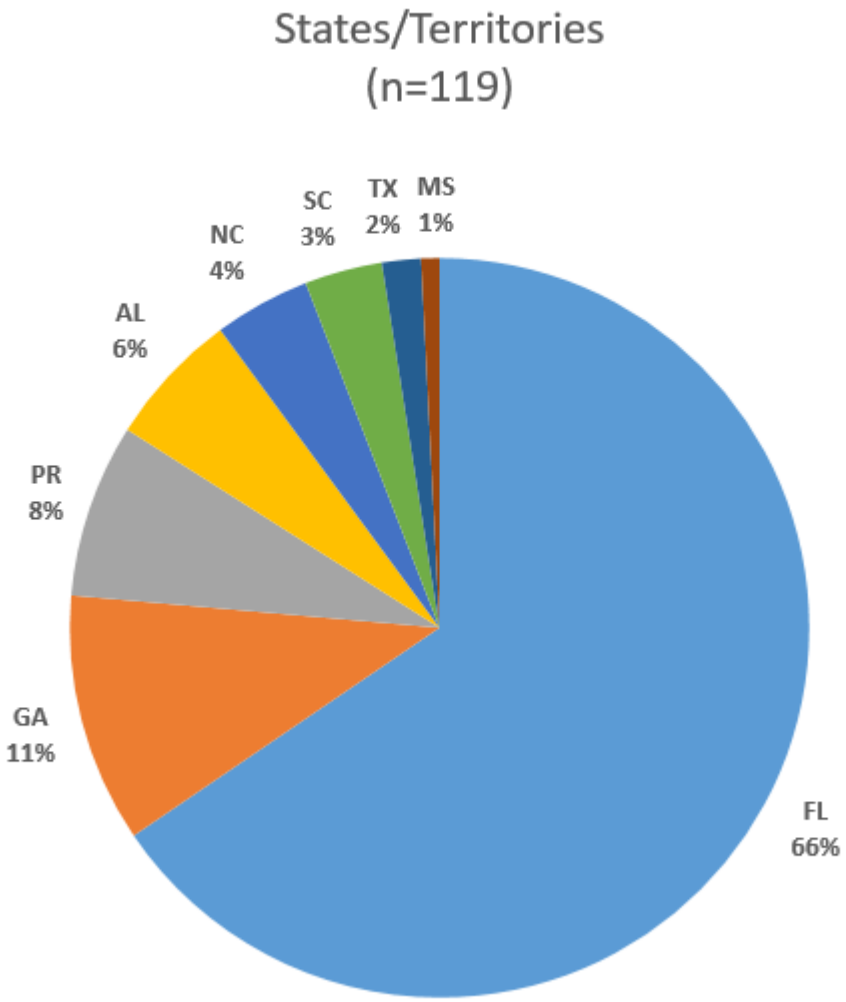
Results

Description of Participants

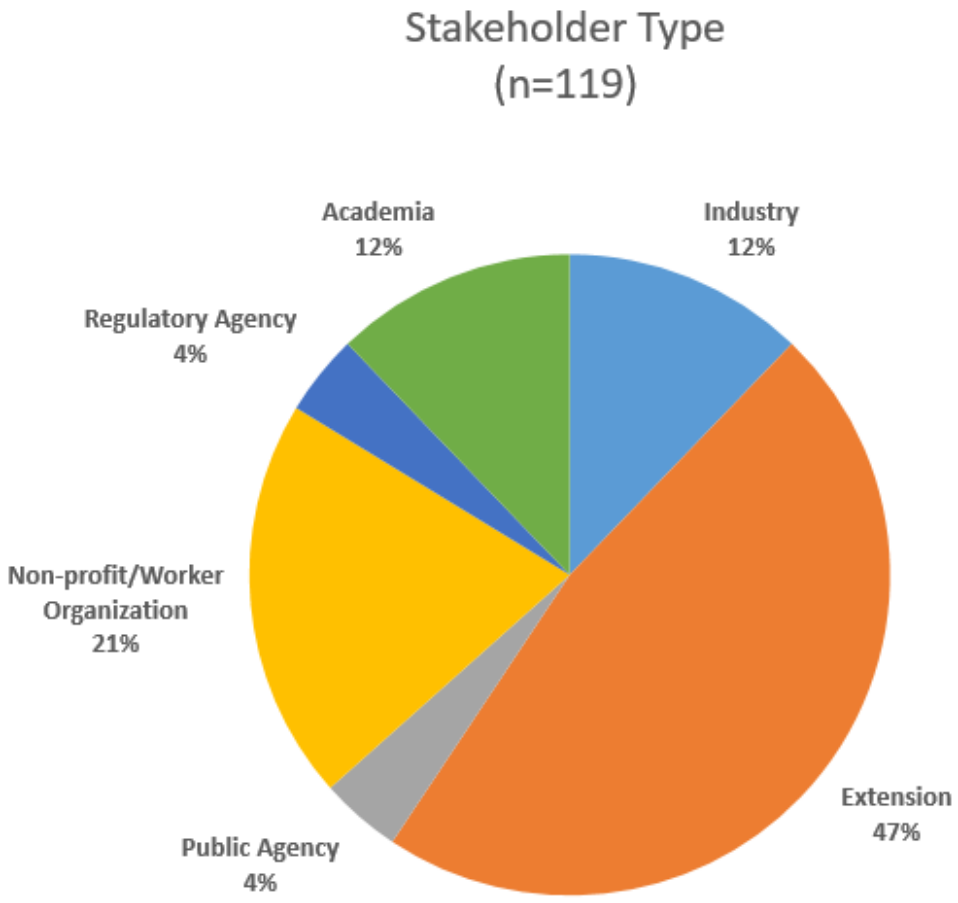
Of the 363 individuals contacted to participate in the needs assessment survey, 119 responded. Ninety of those responses were complete. Eighty percent of respondents were from the agriculture sector; 12% were from the fisheries sector, and 8% were from the forestry sector.



Respondents were from Florida, Georgia, Mississippi, Alabama, South Carolina, North Carolina, and Puerto Rico. Two respondents from Texas were recommended as snowball contacts, and their responses were also included. There were no respondents from the U.S. Virgin Islands.



Many of the participants were from Extension (47%), followed by non-profit/worker organizations (21%), academia (12%) and industry (12%). Stakeholders from public agencies and regulatory agencies made up 4% of participants, respectively.



Sector Issues

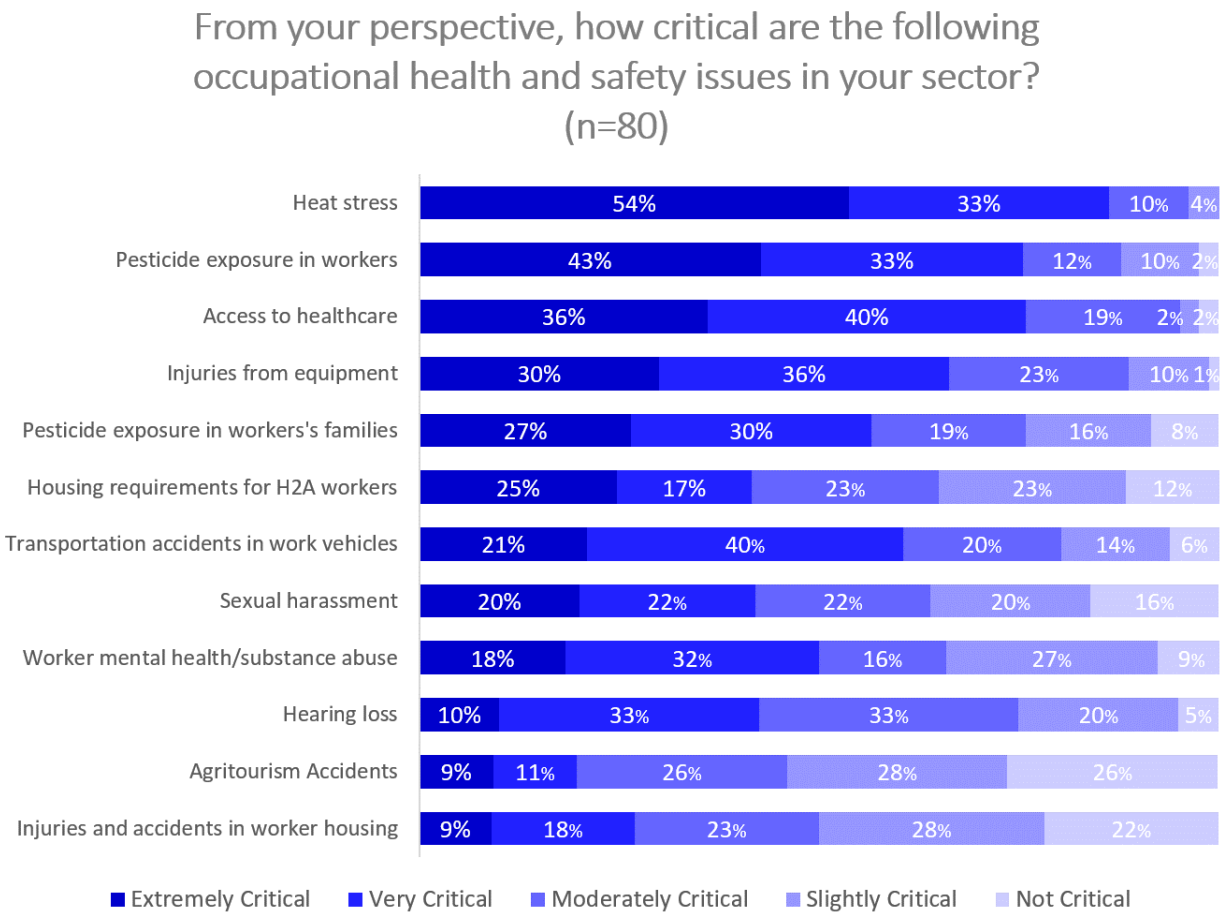
The first section of the needs assessment survey asked participants to describe and prioritize issues affecting workers in their sectors.

Agriculture Sector

Issues

Respondents were asked to assess the importance of agriculture, fisheries and forestry issues that were presented in a list. The list was compiled from a media analysis conducted by the Outreach Core, and respondents were asked to write in other issues not included on the list. The scale used in this item ranged from "extremely critical" to "not critical at all".

Fifty-four percent of agriculture sector respondents rated heat stress as extremely critical, followed by pesticide exposure in workers (43%), access to healthcare (36%), injuries from equipment (30%) and pesticide exposure in workers' families (27%) as being the most extremely critical issues in the agriculture sector.



Categories of issues included in the "other" open response section included: health issues, workplace culture, workplace safety, and animals and insects.

Other Issues		**(n)**
Health issues		7
	Chronic health issues	1
	Occupational health exposures	1
	Nutrition	1
	Diabetes	1
	Cultural competency accessing care	1
	Oral health	1
	Musculoskeletal	1
Workplace culture		5
	Improper training	1
	Rushed work	1
	Labor wages	1
	Lack of community building	1
	Lack of immigration law resources	1
Workplace safety		3
	Silo safety	1
	Lagoon safety	1
	Livestock handling	1
Animals and insects		2
	Mosquitoes	1
	Scorpions	1

Urgent Issues

Agriculture sector respondents provided information about urgent issues they encountered over the past year. These urgent issues were included pesticide issues (n=14), access to healthcare (n=10), and heat stress (n=9).

Issue		(n)
Pesticide issues		14
	Pesticide exposure	13
	Lack of personal protective equipment	1
Access to healthcare		10
	General lack of access	3
	Avoiding healthcare for fear of deportation	3
	Lack of access to mental healthcare	2
	Lack of cultural competency	1
	Lack of financial access	1
Heat stress		9
	Heat stress in general	8
	Lack of access to shade	1
Workplace crime		8
	Forced labor	3
	Sexual assault	2
	Sexual harassment	2
	Child labor	1
Health issues		6
	Lack of access to toilets and water	3
	Occupational exposures	1
	Diabetes	1
	Nutrition	1
Heavy equipment		5
Animals and insects		4
	Mosquitoes (Zika)	2
	Snakes	1
	Livestock handling	1
Workplace culture		3
	Lack of training	1
	Fear and stress about deportation	1
	Verbal abuse	1

Injuries

According to stakeholders, agriculture workers experience a variety of occupational injuries. Equipment-related injuries (n=25), heat-related illness (n=18), and mild injuries like cuts and bruises (n=16) were the most frequently mentioned injuries reported.

Injury		(n)
Heavy machinery injuries		25
	Equipment	11
	Farm vehicles	7
	Tractor rollover	3
	Transportation	4
Heat-related illness		18
Mild injuries		16
	Cuts	11
	Rope burns	1
	Burns	2
	Bruises	2
Pesticide-related		15
Back pain and injuries		14
Musculoskeletal		10
Slips and falls		9
Eye injuries		8
Traumatic injuries		7
	Broken bokes	3
	Lost limbs and digits	3
	Head injuries	1
Wildlife		5
	Snake bites	3
	Insect bites	2
Livestock related		4

Activities

The nature of farmwork (n=33), including heavy lifting and bending and reaching, pesticide activities (n=17), and working with heavy equipment (n=15) were the most frequently mentioned occupational activities that cause injuries reported by stakeholders.

Activity	(n)
Nature of work	33
Heavy lifting	7
Bending and reaching	6
Working in heat and humidity	6
Long hours	6
Rushing work	5
Repetitive motion	3
Pesticide activities	17
Pesticide application	11
Pesticide drift	4
Lack of personal protective equipment applying pesticides	2
Heavy equipment	15
Working with heavy equipment	10
Farm vehicles	4
Lack of rollover protection systems	1
Harvesting	12
Citrus harvest	5
General harvesting activities	4
Tropical fruit harvest	3
Livestock handling	6
Tools	5
Slips and falls	3
Insufficient training	4
Planting	2

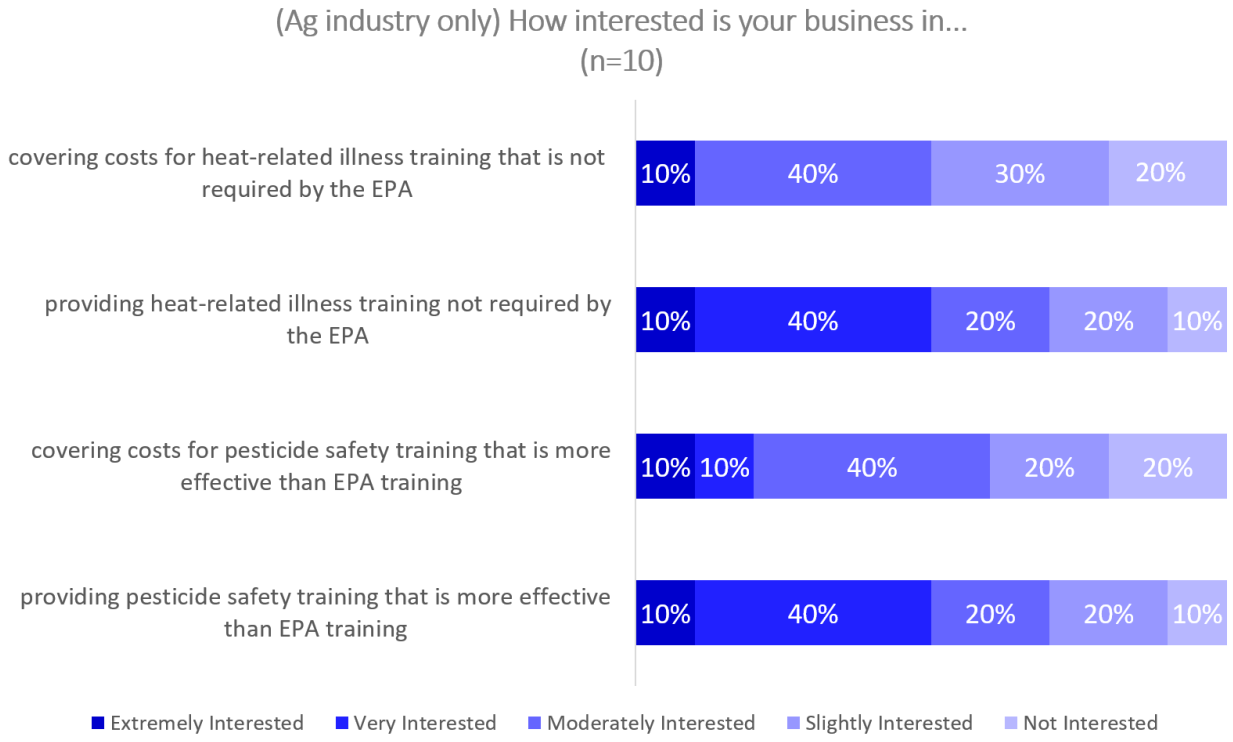
Equipment

When asked about what kinds of equipment are responsible for injuries in farmworkers, stakeholders mentioned farm vehicles (n=35), tractor equipment (n=17), and pesticide equipment (n=16) most frequently.

Equipment	(n)
Farm vehicles	35
Tractors	15
Trucks	6
Worker transportation	4
Power take off system (PTO)	3
Forklifts	3
Trailers	2
Tractor rollover	1
All-terrain vehicles	1
Tractor equipment	17
Balers	5
Mowers	5
Combines	4
Harrows	2
Plows	1
Pesticides	16
Application equipment	7
Lack or faulty personal protective equipment	4
Spray rigs	4
Drift	1
Hand tools	10
Sharp tools	7
Hand tools	2
Hardware tools	1
Heavy machinery	8
Heavy machinery	3
Broken/rusted metal	1
Hot machinery	1
Hay equipment	1
Augers	1
Scissor-lift work carts in greenhouses	1
Ladders	7
Packing houses	3

Industry Issues

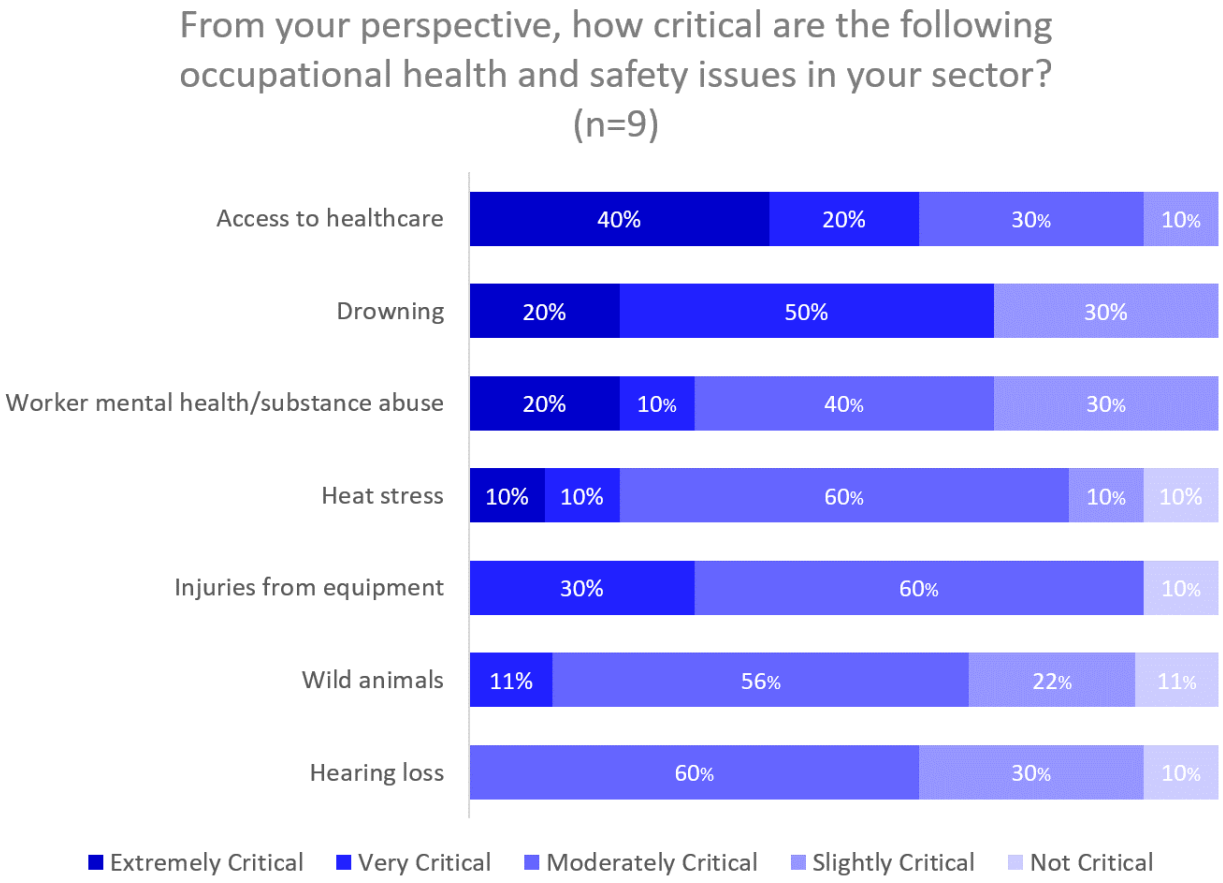
Participants who identified as both working in the agriculture sector and as industry stakeholders (n=10) were asked about how they prefer to keep track of required Worker Protection Standard (WPS) trainings. Four respondents preferred paper tracking; four respondents preferred electronic tracking, and three said the question was not applicable. Agriculture industry respondents were also asked about their interest in providing and paying for non-mandatory heat-stress and pesticide training. Most were moderately interested or very interested in providing and paying for these trainings.



Fisheries Sector

Issues

Stakeholders from the fisheries sector prioritized access to healthcare as being an extremely important issue (40%), as well as drowning (20%), and worker mental health/substance abuse (20%).



Urgent Issues

Fisheries sector stakeholders mentioned access to healthcare most frequently when asked to list urgent issues in their sector. They also listed heat stress, heavy equipment, and wild animals.

Issue		(n)
Access to healthcare		4
	Lack of access to mental healthcare General lack of access	2 2
Heat stress		1
Heavy equipment		1
Animals and insects		1
	Viruses from fish	1

Injuries

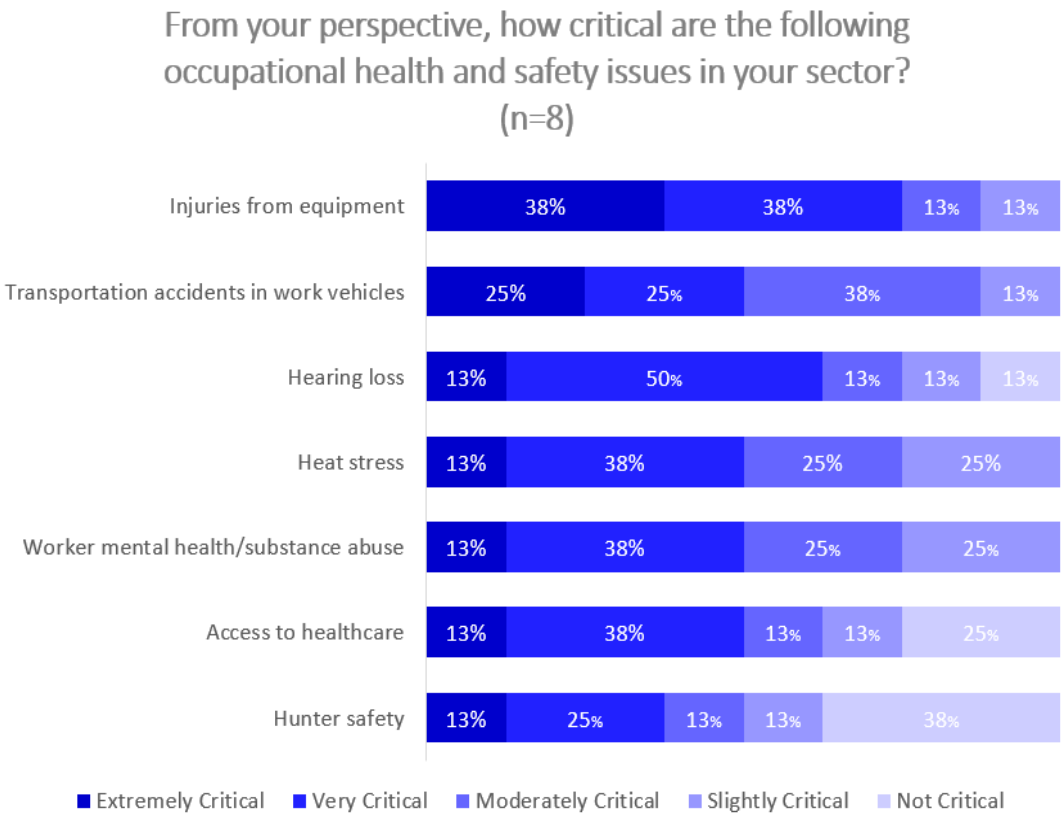
The most frequently mentioned injuries experienced by fisheries workers are mild injuries (n=4) like burns, cuts and bruises. Fisheries sector stakeholders also listed traumatic injuries (n=3) like broken bones and lost limbs and digits. Slips and falls (n=3) and musculoskeletal injuries (n=2) were also listed. Many of the fisheries sector stakeholders who responded to this item simply listed "fishing" as a cause of injury. Fishing gear like boat motors, boat lifting equipment, and lack of boat safety equipment were listed as equipment connected to injuries experienced by fisheries sector workers.

Injury		(n)
Mild injuries		4
	Burns Cuts Bruises	1 2 1
Slips and falls		3
Traumatic injuries		3
	Broken bones Lost limbs and digits	2 1
Musculoskeletal		2
Wildlife		1
	Bites and stings from marine life	1

Forestry Sector

Issues

Forestry sector stakeholders rated injuries from equipment (38%) and transportation accidents in work vehicles (25%) as being the most critical issues in their sector. Fifty percent of respondents rated hearing loss as very critical, and 38% of respondents rated heat stress, worker mental health/substance abuse and access to healthcare as very critical, respectively.



Other occupational health and safety issues listed by forestry sector stakeholders in the "other" open response category included animals, insects and plants (n=5) like venomous snakes, ticks and poisonous plants.

Injuries

Forestry sector stakeholders listed several injuries that forestry workers experience. The most frequently listed type was mild injuries (n=8) like rope burns, cuts, and bruises. Wildlife injuries (n=4) like insect bites and snakebites were also listed, as well as musculoskeletal injuries (n=3) and slips and falls (n=3). The activities that cause injuries in the forestry sector included heat stress, working with heavy equipment, worker carelessness, and the hazardous nature of the logging profession.

Injury		**(n)**
Mild injuries		8
	Rope burns	2
	Cuts	4
	Bruises	2
Wildlife		4
	Insect bites	2
	Snakebites	2
Musculoskeletal		3
Slips and falls		3
Traumatic injuries		2
	Broken bones	2
Heat-related illness		2
Heavy machinery		1
	Equipment injuries	1

Equipment

A variety of equipment cause injuries in the forestry sector. Skidders (n=4) and trucks and vehicles (n=4) were the most frequently listed equipment that caused injuries in forestry workers.

Equipment	(n)
Skidder	4
Trucks and vehicles	4
Feller	3
Loader	2
Buncher	1
Mill and paper equipment	1
Vegetation masticator	1
Wildfire engine	1
Chainsaw	1

Health and Safety Trainings and Interventions

This section of the survey was created to better understand what is currently being done to address health and safety issues in the agriculture, fisheries and forestry sectors. Stakeholders described mechanical strategies that have been developed to prevent injuries, behavioral injury prevention approaches and current trainings being utilized by different sectors.

Agriculture Sector

Mechanical interventions

Agriculture sector stakeholders listed four main categories of mechanical interventions that have been used to improve the health and safety of agriculture workers. These include vehicle improvements, safety gear and structures, pesticide related improvements, and animal related improvements. Rollover protection systems (ROPS) on tractors (n=5) was the most frequently listed vehicle improvement, followed by shields or guards (n=3) and enclosed tractors cabs (n=3).

Mechanical strategy		**(n)**
Vehicles		17
	Rollover Protection System (ROPS)	5
	Enclosed tractor cabs	3
	Shields or guards	3
	Tractor seatbelts	2
	Safety shut-off switches	1
	Safety belt buzzers	1
	Backup warning buzzers	1
	Safer transportation vehicles	1
Safety gear and structures		7
	Fire extinguishers	1
	Eyeglass protection	1
	Personal protective equipment	1
	Required shade structures	1
	Required bridges over ditches	1
	Shorter ladders	1
	Silo harnesses	1
Pesticide related		4
	Closed mixing/loading systems	2
	Closed chemigation systems	1
	Drone applications	1
Animal related		1
	Self-indexing milking parlors	1

Behavioral Approaches

Agriculture sector stakeholders were asked about which approaches had been used to prevent injuries in their sector. Responses were organized into two categories: education (n=44) and employer compliance/regulation (n=17). Training in general was the most frequently listed education approach (n=19), followed by updated training materials (n=4), safety meetings (n=3), WPS training (n=3), certifications and licenses (n=3), and annual safety trainings (n=3).

Intervention		(n)
Education		44
	Training in general	19
	Updated materials	4
	Safety meetings	3
	WPS training	3
	Certifications and licenses	3
	Annual safety trainings	3
	Extension ag safety days	2
	One-to-one farmer training	1
	Community health worker training	1
	Good instructions	1
	Occupational Safety and Health (OSHA) training	1
	NIOSH training	1
	Posters	1

Stakeholders reported that employers and regulation of employers play a large role in improving health and safety for agriculture workers. Compliance monitoring (n=3), employers facilitating safe work environments (n=3), and safety awareness (n=3) were the most frequently mentioned examples of employer compliance.

Intervention		(n)
Employer compliance/regulation		17
	Compliance monitoring	3
	Employers facilitate safe work environment	3
	Safety awareness	3
	Safety complaint hotline	2
	Safety bonuses	1
	Reduce productivity requirements	1
	Reduce size of picking sacks	1
	Shade break reminders	1
	Hydration on site	1
	Fair Food program	1

Stakeholders were asked if their company or organization currently facilitates health and safety trainings, and 46 of the stakeholders responded "yes". The most frequently mentioned training topic is pesticide safety training (n=17), followed by general farm safety (n=12), worker protection standards (n=10) and heat related illness (n=7).

Training topic	(n)
Pesticide safety training	17
General farm safety training	12
WPS training	10
Heat-related illness training	7
Community health worker training	6
Food safety training	4
Equipment training	4
OSHA training	3
NIOSH training	1
Hunter safety training	1
Farm Visits	1

Finally, stakeholders were asked to describe the major obstacles in creating a safe work environment for agricultural workers. The categories of responses included advocacy and intervention issues (n=24), agriculture industry issues (n=21), worker behavior (n=19), and issues relating to Latino migrant farmworkers (n=16).

Obstacle	(n)
Advocacy and intervention issues	24
Access to training	11
Cost	10
Lack of communication between stakeholders and workers	1
Lack of research data to lobby	1
Access to mental healthcare	1
Agriculture industry issues	21
Employer resistance	10
Weak regulations	5
Lack of trained employees	3
Time away from work for training	1
Optional workers comp	1
Moving workers from site to site	1
Worker behavior	19
"It can't happen to me"	5
Carelessness	5
Rushed work	5
Stubbornness	2
Not following safety procedures	2
Latino migrant farmworkers	16
Language barrier	5
Employee turnover	4
Fear of deportation	4
Worker education levels	3

Fisheries Sector

Health and Safety Strategies

Many fisheries sector stakeholders were not aware of mechanical interventions to improve the health and safety of workers in their sector. Most did not answer or answered "don't know". However, one stakeholder listed a safety gear list published by the Coast Guard, and another listed guards on winches and capstans. Additionally, fisheries stakeholders listed good instructions from the captain and drill conductor trainings as examples of education interventions.

Strategy	(n)
Mechanical strategies	2
Coastguard safety gear list	1
Guards on winches and capstans	1
Education strategies	2
Good instructions Drill conductor trainings	1 1

Stakeholders were asked if their company or organization currently facilitates health and safety trainings, and provided a list of trainings aimed at workers and employers, and 6 of the fisheries stakeholders responded "yes". Training topics included drill conductor trainings (n=2) and commercial vessel safety training (n=1).

Finally, fisheries sector stakeholders described the obstacles in creating a safe work environment in their sector. Cost and access to training were the most frequently mentioned barriers, as well as lack of trained employees, time taken away from work for training, and aging fishing vessels.

Obstacle	**(n)**
Advocacy and intervention issues	5
Cost	3
Access to training	2
Fishing industry issues	2
Lack of trained employees	1
Time away from work for training	1
Other	1
Aging fishing vessels	1

Forestry Sector

Health and Safety Strategies

Forestry sector stakeholders listed machinery modification, personal protective equipment and a shift to mechanization as being strategies that are used to prevent injuries and improve worker safety and health. Equipment modifications included safety gigs and ATV weight balance mitigation. Additionally, forestry employees work less with chainsaws, and rather operate large mechanical equipment, which some stakeholders cited as creating a safer work environment. One stakeholder mentioned that some workers are now required to wear neon shirts at work.

Additionally, forestry sector stakeholders attributed improved worker health and safety to educational strategies like trainings and safety meetings. One stakeholder described how their company records each injury close call, which is then reviewed and used to inform future safety strategies.

Strategy		(n)
Equipment		4
	Safety gigs	1
	ATV weight balance mitigation	1
	Mechanization	1
	Reduced use of chainsaws	1
Safety gear and structures		3
	Personal protective equipment	2
	Required neon shirts	1
Education		2
	Training	1
	Safety meetings	1
Employer compliance/regulation		1
	Record and review incidents	1

Three forestry stakeholders responded that their organization provided training to forestry workers. Only one stakeholder described the training, which included monthly safety meetings with rotating topics, as well as biannual first aid and CPR training.

Finally, forestry sector stakeholders described the obstacles in creating a safe work environment in their sector. Worker behavior was most frequently mentioned, specifically a "It can't happen to me" attitude and carelessness. Employer resistance and lack of trained employees were also listed.

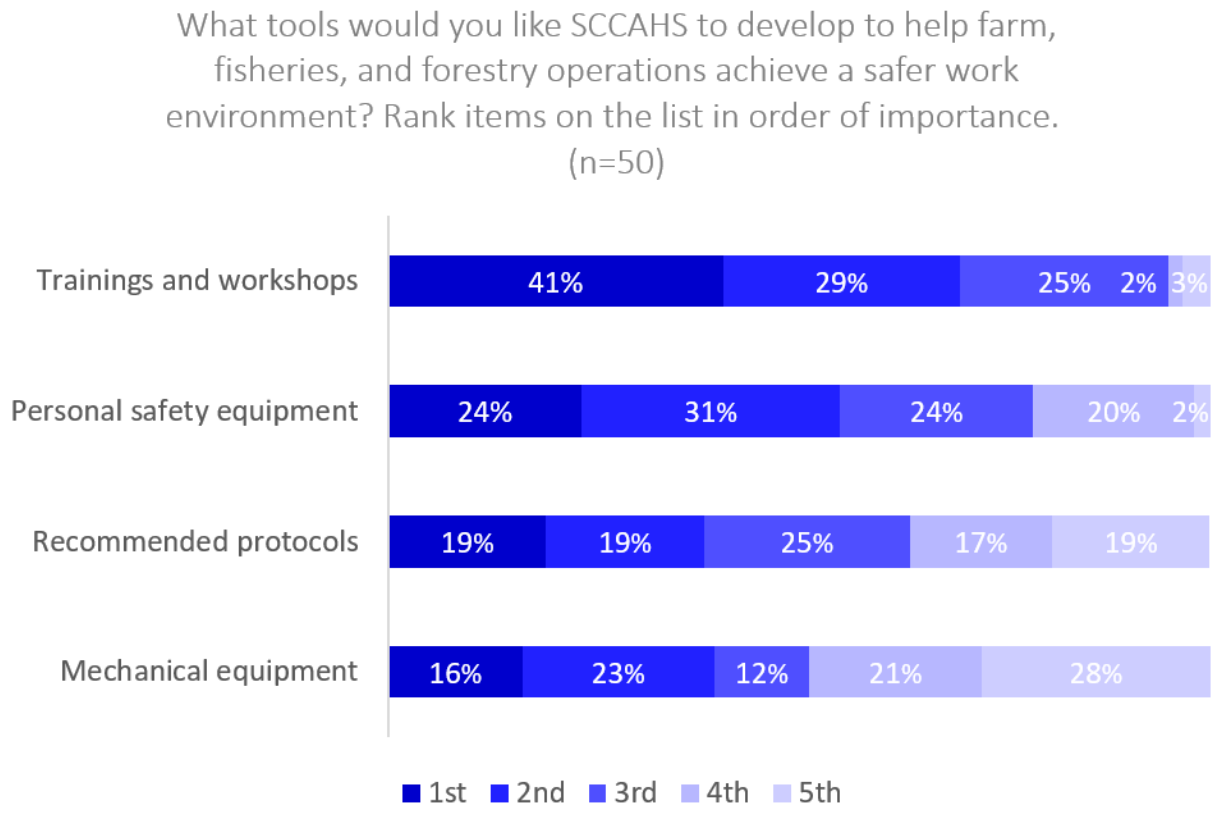
Obstacle		**(n)**
Worker behavior		4
	"It can't happen to me" Carelessness	3 1
Forestry industry issues		2
	Employer resistance Lack of trained employees	1 1

Center-wide Issues

The stakeholder needs assessment included items that were relevant to stakeholders in all three sectors. This section asked stakeholders about tools they would like SCCAHS to develop, as well as strategies for self-employed workers, and ways that SCCAHS can benefit stakeholders and the work they do.

Tools

Many respondents ranked trainings and workshops (41%) as being the most important tool for SCCAHS to develop to help achieve safer work environments in the farming, fisheries and forestry sectors. Personal safety equipment (24%) was rated second, followed by recommended protocols (19%) and mechanical equipment (16%).



Strategies for self-employed workers and risk management

Stakeholders listed financial incentives (n=11), cost/benefit analysis (n=10) and training (n=7) most frequently as motivators for self-employed farmers, fishers and forestry workers to invest in strategies to improve occupational health and safety.

Strategies for self-employed workers	(n)
Financial incentives	11
Cost/benefit analysis	10
Training	7
Preferential insurance rates	4
Recognition for safety compliance	4
Testimonials about incidents	3
Less regulation	1
Guaranteed product market for safety compliance	1

Agriculture Extension stakeholders were asked which specific topics they need training for on the topic of risk management. There were 36 responses received from agricultural Extension agents. Stakeholders identified themes including basic liability insurance, agritourism liability, worker liability, and health insurance. Based on that information, the Outreach Core is working on examining current materials available on those topics and will create new material as needed, including fact sheets. Additionally, the Outreach Core will host a webinar in-service training session on each theme mentioned by stakeholders. Webinars are tentatively scheduled for dates in Fall 2017 and Spring 2018.

SCCAHS Benefits to Stakeholders

Stakeholders were asked how SCCAHS can benefit them and the work they do in their sector, and their diverse responses were organized into six categories: health and safety workshops (n=15); outreach materials (n=14); facilitation of collaboration between organizations (n=13); distribution of research, data and recommendations (n=10); surveillance (n=4); and support for regulations (n=2).

Health and Safety Workshops	15
Collaboration with faculty to implement agriculture health and safety education	1
Distribute information about WPS	1
Assist farmer trainings and workshops	1
Support for WPS respirator regulations, fit tests, personal protective equipment trainings, exam for applicators	2
Easily accessible program aimed at educating workers and employers	1
Organize and aggregate existing agriculture health and safety education	1
Outreach to small growers to comply with health and safety requirements	1
Agriculture vehicle safety trainings	1
Better access to employee health and safety training	2
Outreach workshops regarding heat stress	1
Outreach workshops regarding eye health and sun exposure	1
Training for Type II management teams that respond to avian flu outbreaks	1
Health screening events for fisheries	1

Outreach Materials	**14**
Agriculture health and safety materials	5
PowerPoints	2
Pesticide safety materials	2
Spanish-language materials	1
Educational materials for workers about where and how to obtain medical treatment	1
Information for employers about respirators	1
Outreach materials regarding heat stress	1
Outreach materials regarding eye health and sun exposure	1

Facilitate collaboration between organizations	**13**
Funding opportunities	3
Partnership opportunities	2
Collaboration with healthcare providers to identify and treat pesticide and heat stress-induced illnesses	1
Collaboration to promote occupational health	1
Collaboration with healthcare providers to educate farmworkers on preventative measures	1
Connect migrant health workers in the region to foster collaboration	1
Promote collaboration between migrant health, Extension, researchers and grower groups on agriculture health and safety issues	1
Facilitate communication for organizations in different states to coordinate services for migrant families	1
Educate extension agents on agriculture health and safety education issues	1
Fund pilot proposals	1

Research, data and recommendation distribution	**10**
Distribute updated, timely research findings and recommendations to organizations	7
Present research findings at East Coast Migrant Stream Forum	2
Provide relevant information for dairy industry	1

Research on health & safety issues and workers	**8**
Region and state-specific data on farmworkers	4
Research on tick-borne diseases	1
Research on drug abuse in fishing communities	1
Focus on Rural Healthcare provision	1
Introduce technology to make equipment safer	1

Surveillance	**4**
Document workplace injuries	1
Document percentage of workers who did not receive medical care or workers compensation	1
Help document abuses on farms	1
Health surveillance and database for fisheries	1

Support for regulations	**2**
Support for heat stress regulations like California	1
Better regulations and enforcement	1

Outreach Findings

The purpose of the SCCAHS Outreach Core is to provide transfer support for SCCAHS research projects, integrate all proposed educational and Extension activities, and disseminate effective and culturally competent communication and information to stakeholders across the six state region and Caribbean. Effective and efficient outreach strategies and tools developed by the Outreach Core will be shared with project PIs and stakeholders, and evaluated and adapted where possible.

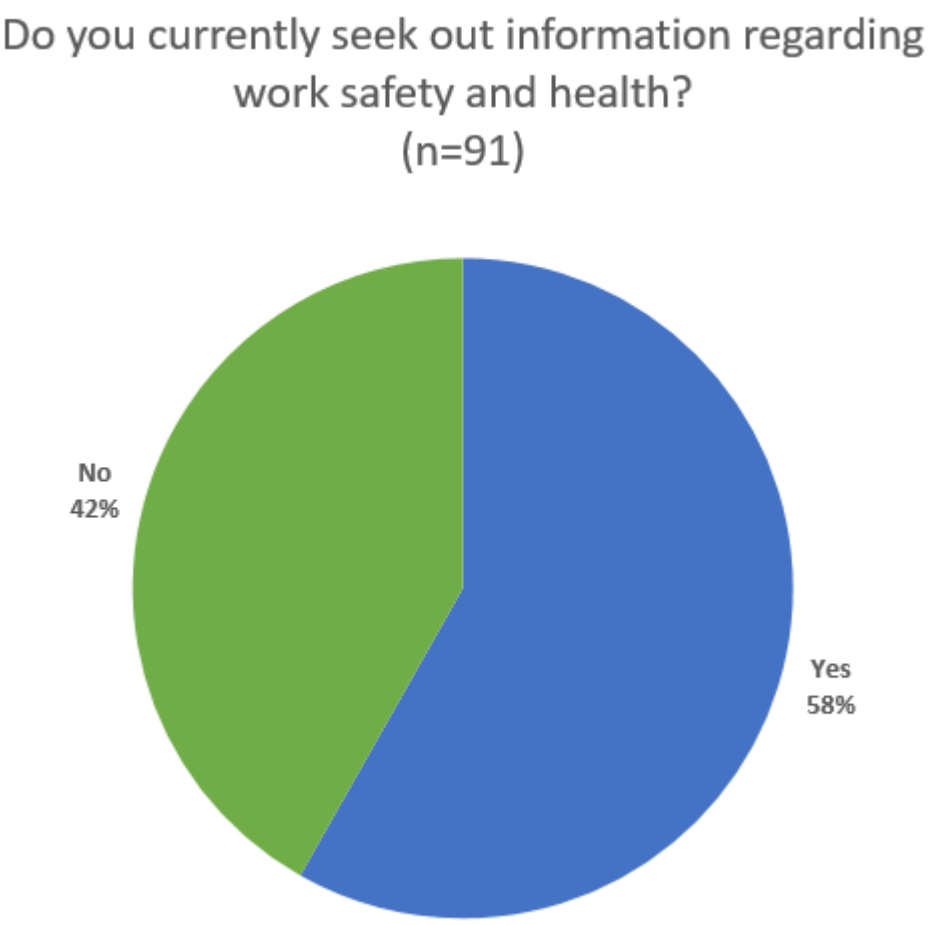
The Outreach Core works to engage stakeholders, communicate research findings, and review and evaluate interventions and materials. The Outreach Core works in concert with research project PIs to solicit input on their findings from stakeholders, develop educational and communications materials, test key messages and message frames within these materials, and conduct content analysis of relevant media information sources utilized by study target populations. Findings will be utilized to develop and refine outreach materials and to inform training and workshop activities conducted by all project PIs.

The following needs assessment questions were developed by the Outreach Core. These findings will be used to identify needs and gaps in the project, to help inform the communications strategies in the outreach plan, as well as the overall development of SCCAHS and research pilot projects. Ultimately, this needs assessment will be used to engage stakeholders in advisory and participatory group processes, while examining and testing the most effective and culturally relevant ways of reaching them.

Information sources

Health and Safety

This section presents stakeholder responses about if and how stakeholders receive information about occupational health and safety.



Those who answered "yes" were asked a follow up question asking which trusted sources they turn to regularly in seeking out information on safety and health. Respondents listed broad sources like the Internet, radio, universities, government agencies, insurance companies, farmworkers associations, and agricultural safety newsletters. They also listed specific sources including the National Safety Council, the USDA, NOAA, OSHA, UF/IFAS, the U.S. Coast Guard, Extension, The North Carolina Agromedicine Institute, the Farmerworkers Health Network, the EPA, the Journal of Agromedicine, and the CDC.

Respondents also gave feedback about how they prefer to receive information about work safety and health. The overwhelming preference of participants was to receive information by email. Of

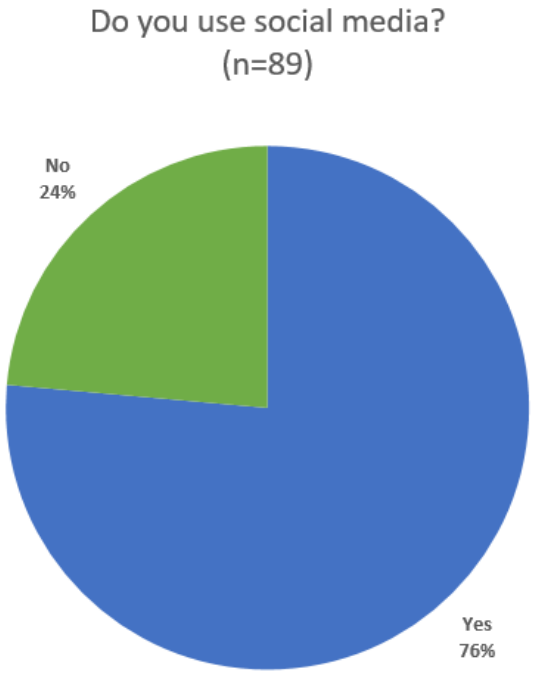
the 91 respondents, 48 (53%) said they would prefer to receive to receive information by email. Other suggestions included online materials (n=8), brochure/print literature (n=4), trainings/workshops (n=4), and videos (n=3). Only one person said they would prefer to receive information by social media.

New in General

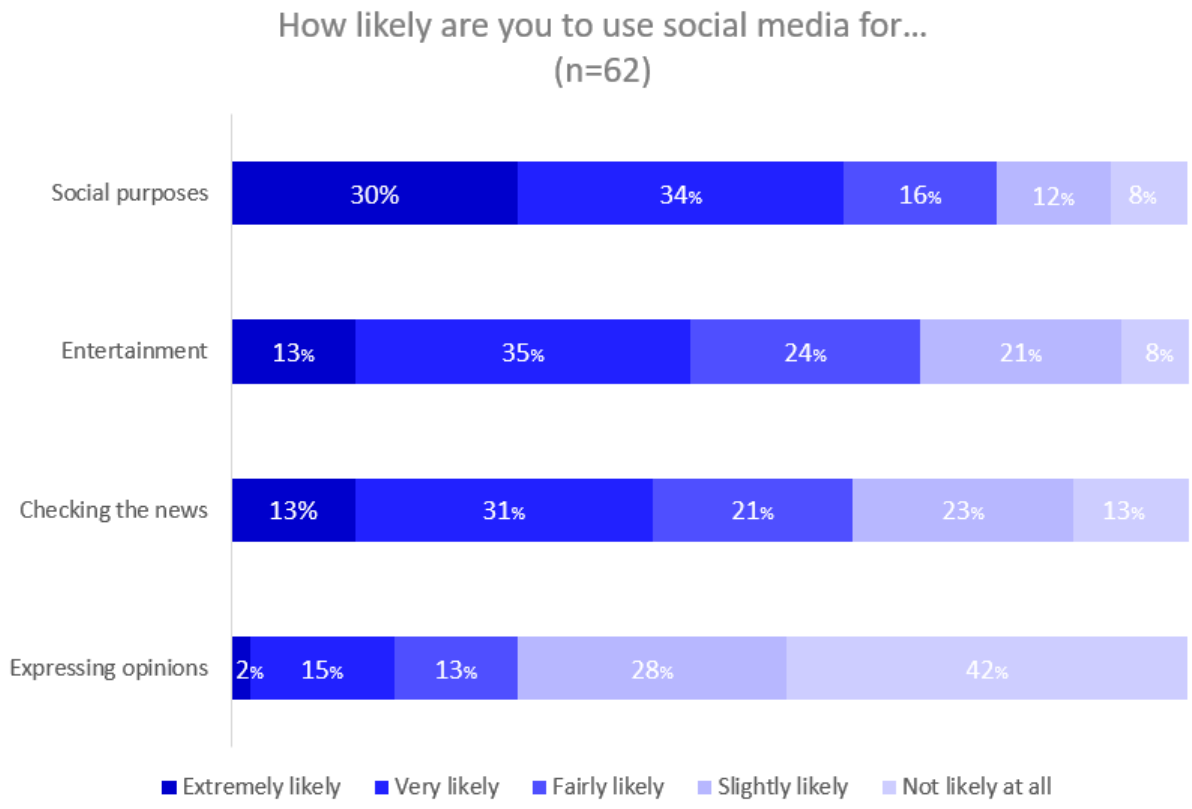
Respondents were also asked to share where they turn to for news in general. They were also asked about the specific television channels, radio stations, magazines, newspapers or websites do they rely on for news in general, as well as their most trusted news source. Many different sources were listed by participants as their most trusted source for news in general. Five of the participants said that "no one source is trusted" and many others did not list a source at all for this question. Of the participants who listed a "most trusted news source," 13 listed NPR as their most trusted source. Four participants listed FOX News. Five participants listed local news as their most trusted source of information.

Social Media

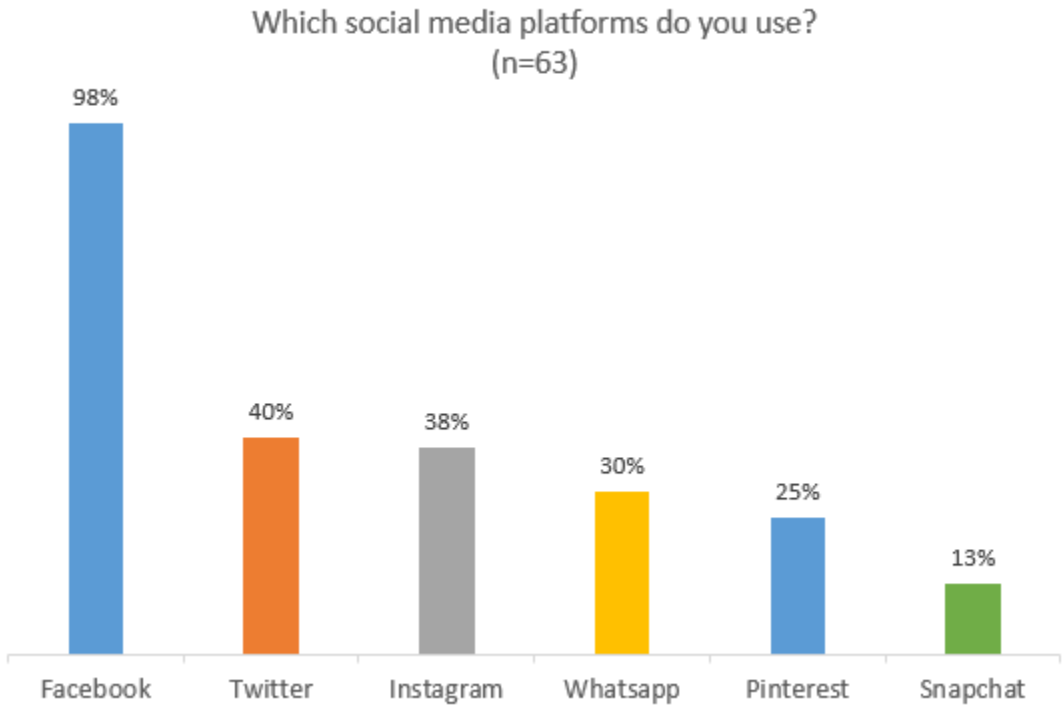
Social media has become an important tool for sharing information and communicating among peers and clients. The following items assessed stakeholders' social media use. More than three quarters of participants responded that they use social media.



Stakeholders were asked to rate how likely they were to use social media for different purposes. The scale used ranged from "extremely likely" to "not likely at all". Stakeholders were extremely likely to use social media for social purposes (30%); entertainment (13%), checking the news (13%); and expressing opinions (2%). One stakeholder responded that they use social media for fundraising, and another said they use it to communicate with farmworkers.



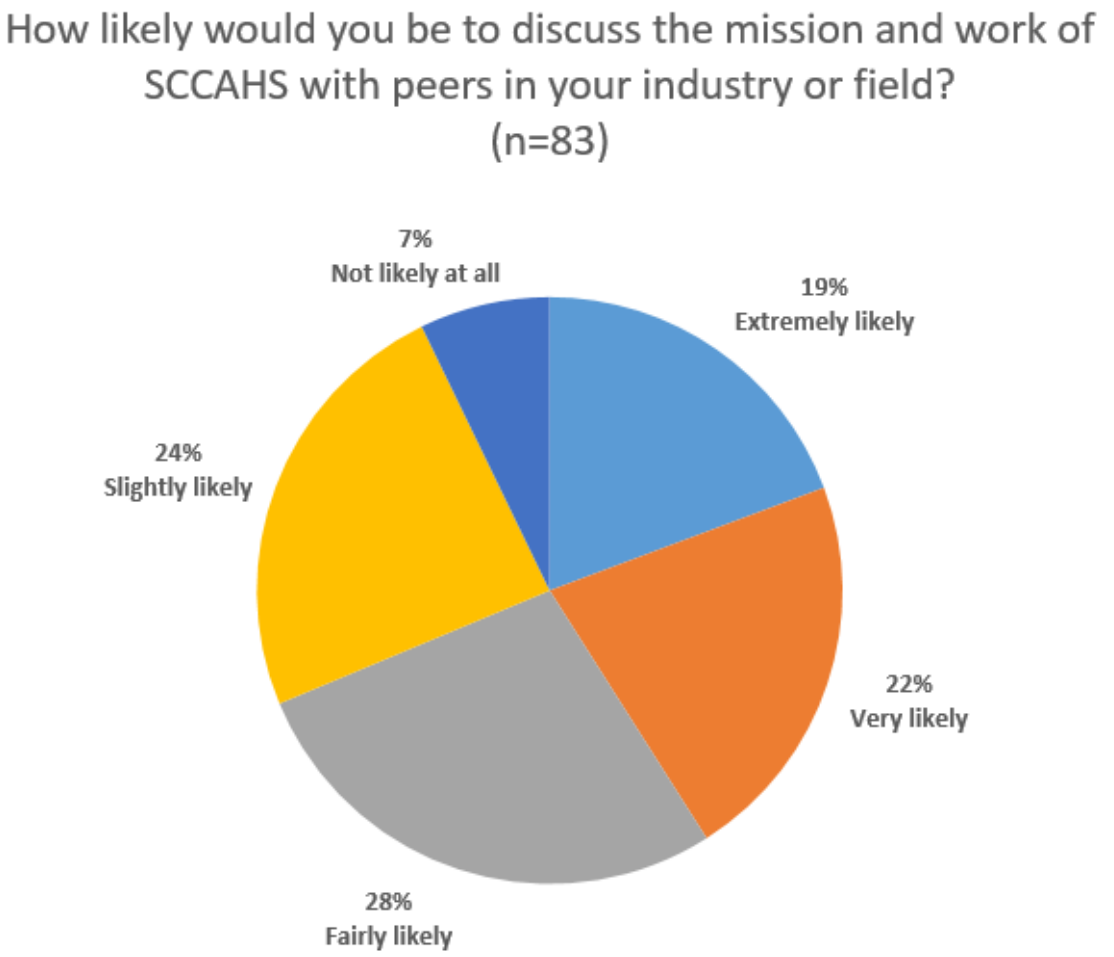
When asked about which social media platform they use, 63 participants responded. Of these, 98% use Facebook. The second most popular platform is Twitter (40%), followed by Instagram (38%), Whatsapp (30%), Pinterest (25%), and Snapchat (13%).



Additionally, stakeholders provided information about which individuals and organizations they follow on social media for information about work health and safety. Stakeholders provided information about which individuals and organizations they follow on social media for information about work health and safety. Although Cooperative Extension was mentioned by several respondents, there were not many individuals and organizations listed by numerous respondents. There does not appear to be much overlap in the social media accounts that stakeholders are looking to for information about work health and safety.

Communication Findings

The majority of stakeholders reported that they would be willing to talk to their peers in their industry or field about the mission and work of SCCAHS.



Stakeholders were asked about preferred communication methods with peers in their industry or field, and 66 stakeholders responded. Many of them (77%) preferred to communicate by email, followed by in person meetings (39%) and phone calls (n=24%). When asked about which media sources they use to get information about or communicate about their work in their sector, 49 stakeholders replied. Seventy-four percent of stakeholders replied they use social media for this purpose. Stakeholders also listed 32 different websites as information and communication resources, many of which were industry sites like Citrus Mutual, Agricultural Retailers Association, and Produce Grower. Stakeholders also indicated that they received information or communicated about their work via email (45%) and list-serves (31%).

Key Findings

Agriculture Sector

Agriculture Health and Safety Issues

SCCAHS team members draw from years of prior experience working in the agriculture sector, and it is no surprise that the two issues designated as most critical by agriculture stakeholders are already being addressed by the SCCAHS research teams and Outreach Core. Heat stress and pesticide issues were both at the top of stakeholders' concerns for farmworkers, listed as being "extremely critical" and most frequently cited as urgent issues. Access to healthcare and injuries from equipment were also highly-ranked as extremely critical issues. The nature of farm work was not provided as a choice to rank in the question asking about critical agriculture issues, but was mentioned frequently in open-ended questions.

Heat Stress

Stakeholders listed a number of factors involved with heat stress, including working outside in the heat and humidity of the Southeast, working long hours, lack of shade breaks, and lack of clean drinking water on work sites.

Pesticide exposure

Lack of or faulty personal protective equipment, pesticide drift, entering fields during or right after pesticide application, and the activity of pesticide application were cited by stakeholders as factors involved in pesticide exposure. Spray rigs and application equipment were the equipment listed as causing exposure.

Access to healthcare

This issue was ranked third as an extremely critical issue among stakeholders, and for a variety of reasons. Many farmworkers do not access healthcare for fear of deportation; do not have access to mental healthcare and experience isolation and drug abuse; cannot afford healthcare; and both farmworkers and clinicians lack cultural competency to access/provide healthcare. Also tied to access to healthcare is management of chronic health issues like diabetes, oral health, and mitigation of occupational exposures.

Injuries from equipment

Injuries from equipment was ranked fourth as an extremely critical issue facing farmworkers. Heavy equipment like farm vehicles and tractor equipment were most frequently listed by stakeholders, and pesticide equipment and hand tools were also mentioned.

Nature of farm work

When asked about the activities that lead to injuries in the agriculture sector, stakeholders listed long hours, rushed work, bending and reaching, lifting heavy objects, and repetitive motion most frequently. These activities were linked to musculoskeletal issues and back injuries.

Addressing Agriculture Health and Safety Issues

Stakeholders were asked for input about how agriculture health and safety issues are being addressed. These strategies were organized into mechanical strategies, as well as behavioral strategies which include education and employer regulation and compliance. Implementation of both types of strategies faces obstacles.

Mechanical strategies

Farm vehicles and tractor implements were frequently listed as equipment that cause injuries, and mechanical strategies that protect workers from injuries from these machines were listed by stakeholders. These strategies include rollover protection systems on tractors, enclosed tractor cabs, shields and guards on tractor equipment, and seatbelts in tractors.

Education

Health and safety education was by far the most frequently listed strategy employed by stakeholders to address agricultural worker health and safety. Training in general topped the list, and some stakeholders emphasized how crucial updated materials are for educating workers and employers. National resources like WPS, Occupational Safety and Health (OSHA) trainings and NIOSH trainings were mentioned, as well as local efforts like Extension Ag Safety Days and certifications and licenses. Employer trainings like safety meetings, annual trainings, and good instructions were also listed.

Employer compliance/regulation

Many stakeholders conveyed the perspective that employers play a large role in worker safety and health. This role can result from internal motivations, like fostering a safe environment, creating a culture of safety awareness, providing safety bonuses, participating in the Fair Food Program, reducing harvesting requirements and providing shade break reminders. Conversely, external motivations like compliance monitoring and anonymous safety hotlines can also encourage employers to comply with health and safety regulations.

Obstacles

Stakeholders mentioned employer resistance, access to training, and cost most frequently when asked to describe the major obstacles in implementing a safe work environment. Other agriculture industry issues like weak regulations and lack of trained employees were also listed as obstacles. Furthermore, it is important to mention that many stakeholders mentioned worker attitudes and behavior as being obstacles. An attitude of "It can't happen to me" as well as carelessness and rushed work were listed most frequently in this category. Working with migrant Latino farmworkers also poses challenges. Many workers have low education levels, and that along with language barriers make developing materials and implementing trainings more challenging. Reaching Latino farmworkers for training can be difficult because of high worker turnover, and stakeholders said workers do not seek out training, or even medical help when they are injured or sick, for fear of deportation.

Fisheries Sector

Fisheries Health and Safety Issues

Fisheries sector stakeholders prioritized a different set of issues affecting fisheries workers. While 20% of stakeholders reported that drowning and worker mental health/drug abuse were extremely critical, 40% of stakeholders responded that access to healthcare was an extremely critical issue affecting seafood workers. Access to healthcare in general and mental healthcare were also most frequently mentioned as urgent fisheries sector issues. Seafood workers also experience mild, traumatic, and musculoskeletal injuries cause by fishing activities and fishing equipment.

Addressing Fisheries Health and Safety Issues

Fisheries sector stakeholders reported two categories of strategies used to improve the health and safety of fisheries workers: mechanical and education. The only mechanical intervention specifically named was guards on capstans and winches, and another stakeholder suggested a Coast Guard list of suggested safety gear that all boats should have. Stakeholders did not mention any organized trainings aimed at fisheries workers, and instead listed good instructions from the captain and watching experienced crew members as behavioral interventions.

Obstacles

Obstacles to in creating a safe work environment for fisheries workers included cost and access to training. Other stakeholders listed a lack of trained employees, and time away from work for training as challenges in the fisheries sector. Additionally, aging boats was also mentioned by one stakeholder.

Forestry Sector

Forestry Health and Safety Issues

Extremely critical issues, as ranked by forestry sector stakeholders, included injuries from equipment and transportation accidents in work vehicles. Hearing loss, heat stress, worker mental health/substance abuse, access to healthcare and hunter safety were ranked as very important issues. Venomous snakes, ticks and mosquitoes were listed as important issues in the "other" open response section.

Forestry sector stakeholders listed mild injuries most frequently when describing injuries that forestry workers experience. That was followed by insect bites and snakebites, musculoskeletal injuries, slips and falls, traumatic injuries, and heat-related illness. Heavy equipment used in forestry operations were linked to injuries. The most frequently mentioned equipment included skidders, trucks and vehicles, fellers, and loaders.

Addressing Forestry Health and Safety Issues

Improved equipment and personal protective equipment were the two most frequently mentioned categories of strategies listed by forestry stakeholders as ways to improve forestry worker safety and health. The forestry sector uses safety gigs and balance mitigators on ATVs, and stakeholders also mentioned that increased mechanization in the forestry sector has led to fewer injuries. One stakeholder reported that injuries decreased after workers were required to wear neon shirts, and another mentioned that personal protective equipment was another successful safety strategy.

Forestry stakeholders cited training in general and safety meetings as educational interventions that helped improve worker safety and health. Additionally, one stakeholder said that each accident or close call was recorded, and these reports were used to inform future safety strategies and protocols.

Obstacles

The biggest obstacle in creating a safe work environment listed by forestry sector stakeholders was worker behavior. A sense of "it can't happen to me" and worker carelessness were most frequently named as obstacles. Another stakeholder listed employer resistance as an obstacle, and another listed lack of trained employees.

Center-wide Issues

Strategies for self-employed workers

When asked about the best ways to motivate self-employed workers to invest in their own safety and health, stakeholders suggested financial incentives most frequently, followed by cost/benefit analyses, training, preferential insurance rates, and recognition for safety compliance, among others.

Farm Risk Management

Additionally, agriculture Extension stakeholders were asked which topics they need training for on the topic of risk management. Their responses included basic liability insurance, agritourism liability, worker liability, and health insurance. Given this information, the Outreach Core will create webinars on these four topics to train agricultural Extension agents to educate their farm clients.

Tools and strategies to improve worker safety and health

More than 40% of stakeholders ranked trainings and workshops as the number one tool that they would like SCCAHS to develop. Personal safety equipment was ranked second, followed by recommended protocols and mechanical equipment. When asked how SCCAHS could benefit them and the work they do in their sector, stakeholders listed a wide variety of suggestions that were organized into several categories: health and safety workshops; followed by outreach materials; facilitation of collaboration between organizations; research, data and recommendation distribution; research on health and safety issues and workers; surveillance, and support for regulations.

Workshops and materials

Stakeholders listed a wide variety of needed topics for workshops and materials, ranging from specific topics like eye health and respirator information for employers, to more broad assistance in aggregating existing trainings. These suggestions offer SCCAHS an opportunity to provide stakeholders with existing resources on these topics, or develop workshops and materials where gaps exist.

Stakeholder collaboration

Based on stakeholders' suggestions, there are great opportunities for SCCAHS to coordinate existing efforts that stakeholder organizations are currently facilitating. Migrant clinicians and healthcare workers reported that their work could benefit from connecting with other healthcare organizations, Extension, researchers and grower groups across the region. There are also opportunities to educate Extension agents about agricultural health and safety issues, and to facilitate communication for migrant worker organizations between states. Other stakeholders were interested in partnership and funding opportunities.

Research and recommendations

Stakeholders presented a need for updated, reliable, and timely distribution of research results and recommendations. Additionally, they reported a need for data on workers in specific regions or states to inform interventions and for advocacy and lobbying efforts. They also offered a number of specific research topics relevant to their work, including research on tick-borne diseases and drug abuse in fishing communities.

Surveillance and regulations

Finally, some stakeholders reported that SCCAHS could benefit them and their work by helping with injury surveillance activities, both in the farming and fisheries sectors. Some suggested taking on more of an advocacy role by helping to document workplace abuses and document when workers are refused workers compensation. Similarly, one stakeholder suggested that SCCAHS advocate for heat stress regulations like those in California, and another called for better regulations and enforcement.

Outreach

Information Sources

The majority of stakeholders indicated that they do currently seek out information about safety and health, and listed a wide variety of sources of where they get that information—from government to Extension to other health and safety organizations. Many preferred to receive information via email, though in another question, social media was most frequently listed as the media source stakeholders actually used to get information about or to communicate about work. Stakeholders most frequently listed NPR as their most trusted source for news in general; four participants listed FOX News, and the local news.

Social Media

Of the 89 respondents who answered the question, "Do you use social media?", the majority replied in the affirmative. Stakeholders were extremely likely to use social media for social purposes, but only 2% of stakeholders were extremely likely to use it for expressing opinions. Facebook was by far the most popular social media site—98% of stakeholders use this platform. Facebook was followed by Twitter, Instagram and Whatsapp.

Communication Preferences

Most stakeholders reported being extremely likely or very likely to discuss the mission and work of SCCAHS with their peers, and as mentioned previously, they most frequently listed social media as a media source they use to receive information or communicate about their work. They also listed industry media websites as media sources to receive and share information about work, as well as email and list-serves.