



EMERGING ISSUES PROGRAM

From 2016-2022 work on the following Emerging Issues program aims was completed.

Specific Aim 1: *Examine trends and identify emerging issues affecting the health and safety of farmers, ranchers, family members and agricultural workers. CS-CASH will identify emerging issues from 1) monthly injury and fatality case reports from the Center's media monitoring service, 2) annual data from the Center's injury surveillance project, 3) reviews of the literature, and 4) case reports from a network of experts in the field.*

The CS-CASH research and outreach teams have experience using media monitoring to identify emerging issues. With our growing database of injury and fatality cases, we provided instant responses and reports regarding incidents and prevention. Responses were coordinated within the Center and with our close collaborators, including other NIOSH ag centers. The emerging issues team conducted regular reviews of peer-reviewed literature and ag-industry news to ensure rapid response to emerging issues.

Enhanced Media Monitoring. Mr. Murray Madsen has conducted an Enhanced Farm and Agricultural Injury Media Monitoring program for CS-CASH since 2011. This program includes the following elements: 1) Collection and analysis of relevant print, broadcast, and internet media content monthly; 2) Creation of a Microsoft Excel record including details and source citations for each incident; 3) Monthly updates of new and existing incident records in datasets provided to CS-CASH; 4) Summary collations provided quarterly, year-to-date, and annually to CS-CASH; 5) Annual, a comprehensive summary and multi-dimensional index of injuries provided to CS-CASH; and 6) Special reports and summaries by mutual agreement. While the other proposed surveillance systems produce primarily statistical and scientific content, the media monitoring system produces powerful incident reports that can be used in presentations and reports, illustrating the types of injuries that have happened and should be prevented. In research published in the Journal of Agromedicine²⁶, we found that the media monitoring produced nearly identical numbers of agricultural fatalities as the BLS Census of Fatal Occupational Injuries, plus an equal number of non-fatal injury cases. Data from our media monitoring is shared with the Marshfield WI-based AgInjuryNews.org, headed by Bryan Weichelt.

Annual Surveillance Project. Since 2011 the CS-CASH Surveillance program has provided information on injuries and work-related health conditions among self-employed farmers and ranchers that are not covered by any other surveillance system. Only hired employees on larger operations are covered in the Bureau of Labor Statistics surveys. Our surveys provide data on out-of-pocket and insurance-covered expenses for medical care and lost work time due to injury. These severity measures are not available in other surveillance systems for agricultural populations.

Specific Aim 2: Respond to identified emerging issues without delay by investigating the problems and solutions and communicating preventive information to the affected populations and stakeholders. CS-CASH will prepare and deliver coordinated, evidence-based responses to identified emerging issues. The program will also fund small grants to outside entities that can respond. Proposals can be submitted at any time. The Center Director and the Pilot Projects Program team will evaluate the proposals and issue expedited funding decisions.

Emerging Issues Programs, Projects, and Funded Grants

Creation and dissemination of COVID-19 Pandemic Playbooks for feedyards and poultry-grower industries in collaboration with the UNMC Global Center for Health Security (GCHS). In response to the need for guidance for the prevention of COVID-19 in the feedyard and poultry industries, CS-CASH and the GCHS collaborated to create two comprehensive guides for these industries covering topics from re-engineering workspace to personal protective equipment²⁷. As time was of the essence, resources were created and disseminated using the CS-CASH extensive industry email and postal mail databases with delivery to 687 poultry growers and 376 feedyards.

Development of COVID-19 informational series of webinars for rural healthcare providers and agricultural stakeholders. In collaboration with the AgriSafe Network, CS-CASH developed and sponsored a 9-part COVID-19 educational webinar series²⁸. To provide accurate and timely information to rural healthcare providers and the agricultural community, CS-CASH and AgriSafe brought together content experts to create weekly webinars on topics from basic virology to hygiene in agricultural settings. There were 1097 total attendees to the 9-week series. These webinars are now maintained on the AgriSafe website as enduring resources.

COVID-19 Resources for Agricultural Communities. CS-CASH developed and maintained an electronic resource site on the CS-CASH website. This site was updated weekly from April – December 2020²⁹.

Creation of Train the Trainer Fit-Testing Workshops and Train the Trainer Fit-Testing Guide.



In response to a lack of personnel qualified to conduct fit testing for pesticide applicators (to meet new Worker Protection Standards), for OSHA ag industry respiratory programs, and workers requiring N-95 respirator use during the COVID-19 pandemic, a Train the Trainer Fit-Testing Workshop and Capacity Building Guide³⁰ were developed in partnership with the Ag Safety and Health Alliance. These resources, targeted to Public Health, health care, safety professionals, and Extension educators, provide the hands-on training, information, and resources needed to conduct respiratory fit testing in agricultural communities. Training includes education on integrating fit testing into an organization's business model.

The workshop and guide have been evaluated and used in training and courses throughout the Midwest.

2019 Midwest Flood Response. In March 2019, a bomb cyclone hit the Midwest, causing record snowfall and rain followed by rapidly warming temperatures unleashing record flooding in 5 of the CS-CASH's 7-states regions. This event cost agricultural producers \$4.5 billion in total sales³¹. Within ten days of the flood event, CS-CASH members working with ag journalist Loretta Sorenson created eleven media publications designed for ag communities on topics ranging from proper PPE for clean-up to protocols for composting dead animals. Over 90 unique news organizations published these articles. In collaboration with UNMC and a philanthropic organization, CS-CASH coordinated the creation and dissemination of over 2800 flood mitigation response kits to agricultural communities, including over 200 kits delivered to flood-ravaged Tribal Reservations (see photos on right). CS-CASH members took part in many flood-related presentations and media appearances, including two RFD-TV and two NE NPR-TV interviews discussing safe flood recovery^{32,33}.



Telling the Story Project (TTSP). Since 2016 members from CS-CASH, Great Plains Center for Agricultural Health (GPCAH), the Upper Midwest Agricultural Safety and Health Center (UMASH), and the National Farm Medicine Children's Center have partnered to develop the Telling the Story Project. The project team includes expertise in industrial hygiene, incident investigation, agricultural engineering, media relations, and educational outreach. This translation activity conveyed emerging issues and injury prevention messaging through personal narratives based on first-hand experiences. These stories and relevant prevention messaging and resources, stored on a dedicated website³⁴, have been accessed over 25,700 times as of January 2, 2022. The website houses video and written narratives created by the TTSP team, educational resources, safety vignettes, and discussion guides created by the Telling the Story team. TTSP stories have been featured in SafetyWatch columns and weekly print agricultural media publications that reach over 84,000 households in the Midwest and online at www.agupdate.com. TTSP news articles shared through the Associated Press have reached over 900,000 viewers throughout the U.S.

Response to increases in agricultural ATV fatalities and Injuries. In response to the high number of ATV injuries and fatalities reported in the CS-CASH media monitoring, the following projects were funded through the Emerging Issues Program.

Assessing the prevalence and underlying causes of 2015-2017 ATV/OHV-related injuries on U.S. farms. P.I. Dr. Bryan Weichelt (National Farm Medicine Clinic) This study estimated the prevalence of exposure and injuries among farmers and ranchers, including working and non-working youth, and discussed the results in the context of injury prevention, including strategies of parental role modeling, helmet use, alcohol, crush protection devices, and legislation³⁵.

New ATV Safety Design Features: Examining cultural acceptability and piloting an educational intervention among Midwestern youth in agriculture. Ag Health and Safety Alliance™ (AHSA) This project used the AHSA Gear Up for Ag™ Program to examine current awareness, beliefs, and cultural acceptability of new ATV safety design features among Midwestern youth in agriculture. The AHSA staff worked with an educational advisory panel to formulate questions for a standardized presurvey. Educators provided training with pilot-tested ATV safety resources to measure possible changes in beliefs or cultural acceptability. ASHA also developed a 2-minute evidence-based "ATV Safety Design" Motion Graphic highlighting the importance of ATV safety, including information on common causes of fatality/injury among young workers and effectiveness of numerous safety design features³⁶.

Bibliography

1. Guiding Principles for Evaluators. American Evaluation Association. Accessed 12/20/2020. https://www.eval.org/About/Guiding-Principles_
2. Pincus HA, Abedin Z, Blank AE, Mazmanian PE. Evaluation and the NIH clinical and translational science awards: a "top ten" list. *Eval Health Prof.* 2013 Dec;36(4):411-31. doi: 10.1177/0163278713507061. PMID: 24214661.
3. Schmitt CL, Glasgow L, Lavinghouze SR, Rieker PP, Fulmer E, McAleer K, Rogers T. Measuring infrastructure: A key step in program evaluation and planning. *Eval Program Plann.* 2016 Jun;56:50-5. doi: 10.1016/j.evalprogplan.2016.03.007. Epub 2016 Mar 26. PMID: 27037655; PMCID: PMC4915728.
4. Cramer ME; Atwood JR; Stoner JA. A conceptual model for understanding effective community coalitions. *Public Health Nursing* (Boston, Mass.) [*Public Health Nurs*], ISSN: 0737-1209, 2006 Jan-Feb; Vol. 23 (1), pp. 67-73; Publisher: Blackwell Scientific Publications; PMID: 16460423.
5. Cramer ME; Atwood JR; Stoner JA. Measuring community coalition effectiveness using the ICE instrument. *Public Health Nursing* (Boston, Mass.) [*Public Health Nurs*], ISSN: 0737-1209, 2006 Jan Feb; Vol. 23 (1), pp. 74-87; Publisher: Blackwell Scientific Publications; PMID: 16460424.
6. Valente TW, Pitts SR. An Appraisal of Social Network Theory and Analysis as Applied to Public Health: Challenges and Opportunities. *Annu Rev Public Health.* 2017 Mar 20;38:103-118. doi: 10.1146/annurev-publhealth-031816-044528. Epub 2016 Dec 15. PMID: 27992729.
7. Cordes JJ. Using cost-benefit analysis and social return on investment to evaluate the impact of social enterprise: Promises, implementation, and limitations. *Eval Program Plann.* 2017 Oct;64:98-104. doi: 10.1016/j.evalprogplan.2016.11.008. Epub 2016 Nov 21. PMID: 28011094.
8. Cramer ME, Habecker P, Wendl M, Sayles H, Rautiainen R, Dombrowski K. Social Network Analysis of an Agricultural Center: Stakeholders and the Transfer of Information. *J Agromedicine.* 2021 Jan 18;:1-12. doi: 10.1080/1059924X.2020.1850383. [Epub ahead of print] PubMed PMID: 33461423.
9. Almeida, F., Cramer, M., Wendl, M. Rautiainen, R. Innovation Diffusion in an Agricultural Center: Moving Information to Practice. *J Agromedicine.* 2019 Jul;24(3):239-247. doi: 10.1080/1059924X.2019.1592046.
10. Cramer, M. Wulf, K., Wendl, M. Keeler, Heidi. (Feb,2019). Are Advanced Providers Prepared to Care for the Agricultural Population? *JNP* Feb,2019 Volume 15 Issue 2, Pages e41-e44. <https://doi.org/10.1016/j.nurpra.2018.09.018>
11. Pounds, L.C., Duysen, E., Cramer, M.E., Wendl, M., Rautiainen, R. and Romberger D.J. (2018). Social Marketing Campaign Promoting the Use of Respiratory Protection Devices among Farmers. In L. Racz, & D. Yamamoto & R. Eninger (Eds), In *Handbook of Respiratory Protection: Safeguarding Against Current and Emerging Hazards* (pp.193-208).Boca Raton, FL, CRC Press, Taylor & Francis Group
12. Wendl, M. J., & Cramer, M. E. (2017). Evaluating Effective Leadership and Governance in a Midwestern Agricultural Safety and Health Coalition. *Workplace Health & Safety*, <https://doi.org/10.1177/2165079917729172>
13. Burgus, S., Duysen, E., Wendl, M. (2017) What influences farmers to use farm safety and health information? *Journal of Extension* Volume 55 Number 1 Article # 1RIB5
14. Cramer, M., Araz, O., Wendl, M. (2017) Social Networking in an Agricultural Research Center: Using Data to Enhance Outcomes. *J Agromedicine.* 22(2), 170-179 doi: 10.1080/1059924X.2017.1282905.
15. Cramer, M., Wendl, M., Sayles, H., Achutan, C., Duysen, E. (2016) Tracking knowledge, attitudes, and practices on respiratory and hearing health among the Midwestern agricultural population. *Public Health Nursing.* Nov, DOI: 10.1111/phn.12306

16. Wendl, M. J., & Cramer, M. E. (2017). Evaluating Effective Leadership and Governance in a Midwestern Agricultural Safety and Health Coalition. *Workplace Health & Safety*, <https://doi.org/10.1177/2165079917729172>
17. CSQ. Available at <https://csqscales.com/>. Accessed 3/3/21.
18. Downes, A., Novicki, E., and Howard, J. (2019). Using the Contribution Analysis Approach to Evaluate Science Impact: A Case Study of the National Institute for Occupational Safety and Health. *American Journal of Evaluation*. Vol. 40(2) 177-189, DOI: 10.1177/1098214018767046
19. Cramer, M. E., Habecker, P., Wendl, M., Sayles, H., Rautiainen, R., Dombrowski, K. Social Network Analysis of an Agricultural Center: Stakeholders and the Transfer of Information. *J Agromedicine*. 2021 Jan 18;:1-12. doi: 10.1080/1059924X.2020.1850383. [Epub ahead of print] PubMed PMID: 33461423
20. Almeida, F., Cramer, M., Wendl, M. Rautiainen, R. Innovation Diffusion in an Agricultural Center: Moving Information to Practice. *J Agromedicine*. 2019 Jul;24(3):239-247. doi: 10.1080/1059924X.2019.1592046.
21. Cramer, M., Araz, O., Wendl, M. (2017) Social Networking in an Agricultural Research Center: Using Data to Enhance Outcomes. *J Agromedicine*. 22(2), 170-179 doi: 10.1080/1059924X.2017.1282905
22. National Research Council (NCR). *Evaluating Occupational Health and Safety Research Programs: Framework and Next Steps*. Washington, DC: National Academies Press, 2009.
23. Schulte, PA, Okun, A, Stephenson, CM et al. (2003). Information dissemination and use: Critical components in occupational safety and health. *Am J Ind Med*. 44: 515-531.
24. Cramer, M.E., Wendl, M.J., Sayles, H., Duysen, E., Achutan, C. Knowledge, Attitudes, and Practices for Respiratory and Hearing Health among Midwestern Farmers. *Public Health Nursing (Boston, Mass.) [Public Health Nurs]*, ISSN: 1525-1446, 2017 Jul; Vol. 34 (4), pp. 348-358; Publisher: Blackwell Scientific Publications; PMID: 27859524
25. Beseler, C. L., Crawford, K., Cherlagne, D., Ramos, A. The NIOSH Agricultural Centers' YouTube Channel: Time series modeling of trends, patterns and associations between viewership and agricultural health and safety videos. *Journal of Agromedicine*. Nov 6:1-10. doi: 10.1080/1059924X.2021.2000907
26. Johnson A, Baccaglioni L, Haynatzki GR, Achutan C, Loomis D, Rautiainen RH. Agricultural Injuries among Farmers and Ranchers in the Central United States during 2011-2015. *J Agromedicine*. 2021 Jan;26(1):62-72. doi: 10.1080/1059924X.2020.1845268. Epub 2021 Jan 18. PMID: 33131463.
27. COVID-19 Playbooks for the Poultry and Feedyard Industries. <https://www.unmc.edu/healthsecurity/covid-19/playbooks/index.html> (Accessed 12/30/21)
28. COVID-19 Ag Task Force Response Think Tank Series. <https://learning.agrisafe.org/products/covid-19-ag-task-force-response-think-tank-series> (Accessed 12/30/21)
29. CS-CASH COVID-19 Resource Page. <https://spark.adobe.com/page/UO9sw0bOvCIRq/> (Accessed 12/30/21)
30. Respirator Fit-Testing Capacity Building Guide. https://aghealthandsafety.com/wp-content/uploads/2021/07/July2021062338_Respirator-Fit-Testing-Workshop-Guide-Book_8.5x11-1-1.pdf (Accessed 12/30/21)
31. English, B.C., Smith, S.A., Menard, R.J. et al. Estimated Economic Impacts of the 2019 Midwest Floods. *EconDisCliCha* 5, 431–448 (2021). <https://doi.org/10.1007/s41885-021-00095-2>
32. Duysen, E. Consider This - Nebraska Flooding 2019. Interview. <https://nebraskapublicmedia.org/en/series-media/consider-this-video/season-23-video-16392/nebraska-flooding-2019-50009580/> (Accessed 12/30/21)

33. Duysen, E. Consider This – Life After the Flooding. Interview. <https://nebraskapublicmedia.org/en/series-media/consider-this-video/season-22-video-16392/life-after-the-flooding-50008590/> (Accessed 12/30/21)
34. Telling the Story Project Website. <https://tellingthestoryproject.org/> (Accessed 12/30/21)
35. Weichelt B, Gorucu S, Jennissen C, Denning G, Oesch S. Assessing the Emergent Public Health Concern of All-Terrain Vehicle Injuries in Rural and Agricultural Environments: Initial Review of Available National Datasets in the United States. JMIR Public Health Surveill 2020;6(2):e15477.
doi: [10.2196/15477](https://doi.org/10.2196/15477) PMID: [32469319](https://pubmed.ncbi.nlm.nih.gov/32469319/) PMCID: [7293057](https://pubmed.ncbi.nlm.nih.gov/7293057/)
36. ATV Aware Stop Motion Video. <https://aghealthandsafety.com/atv-safety/> (Accessed 12/30/21)