

ASSESSMENT OF FACILITATORS, BARRIERS AND PREFERENCES FOR SAFE EXERCISE ROUTINES IN FIREFIGHTERS: AN INJURY PREVENTION INVESTIGATION

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KEY POINTS

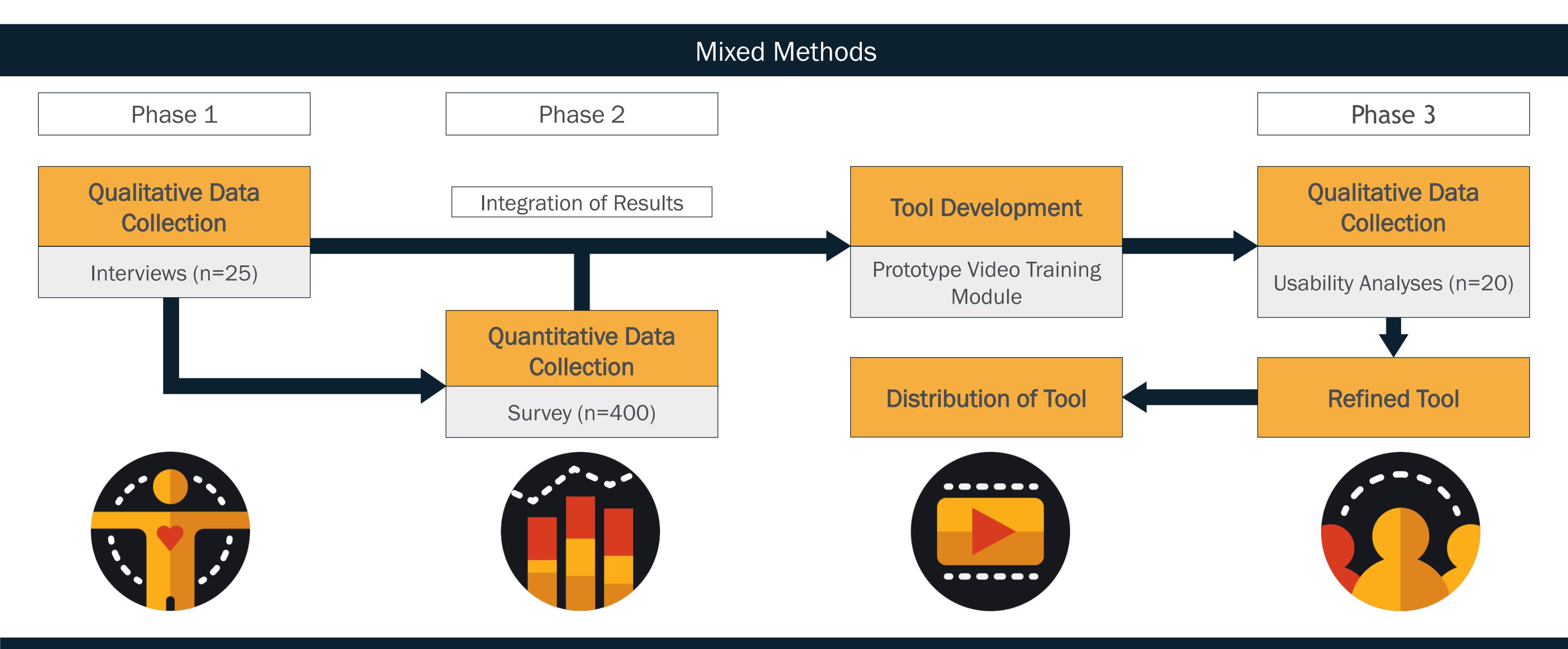
- The risk of firefighter injury during training and exercise activities is high, and may not be of common knowledge
- We are exploring trends among these injures and developing an educational tool to help prevent them

Background

- Firefighters have one of the highest rates of injury among any profession¹.
- The majority of these injuries are musculoskeletal disorders, with 64% being sprains and strains²⁻⁴.
- At the firehouse and during training activities are among the most common settings for injuries to occur, opposed to on the fireground⁵⁻⁶.
- The societal cost of these injuries are high and frequently leads to early retirement from the firefighting service.

Objectives

- To identify common themes, including injury risk factors and firefighter perceptions, surrounding training and exercise-related injuries in firefighters.
- To evaluate how gender might affect training and exercise-related injury risk.
- To develop customizable video training modules that will be used to educate firefighters on best exercise and training practices.



Emerging Themes - Phase 1

Pushing body past its limit → Poor body awareness

Exercising and training while fatigued → Times of low tissue tolerance

Lack of education regarding safe practices → Poor form & lack of warm-up/cool-down

"Suck it up" type attitude → Leads to ignoring injuries

Implications

† Education
Surrounding Injury
Risk

of Firefighter
Training/Exercise
Injuries

Length of Firefighter
Careers

Costs to Society

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References:1.Negm A, MacDermid J, Sinden K, D'Amico R, Lomotan M, MacIntyre NJ. Prevalence and distribution of musculoskeletal disorders in firefighters are influenced by age and length of service. J Mil Veteran Fam Heal. 2017;3(2):33-41.

2.Marsh SM, G William M, Konda S, Tiesman HM, Fahy R. Nonfatal Injuries to Firefighters Treated in U.S. Emergency Departments, 2003–2014.Am J Prev Med. 2018. 3.Phelps SM, Drew-Nord DC, Neitzel RL, Wallhagen MI, Bates MN, Hong OS. Characteristics and Predictors of Occupational Injury Among Career Firefighters. WorkHeal Saf. 2018. 4.Frost DM, Beach TACC, Crosby I, McGill SM. Firefighter injuries are not just a fireground problem. Work. 2015;52(4):835-842. 5.Poplin GS, Harris RB, Pollack KM, Peate WF, Burgess JL. Beyond the fireground: Injuries in the fire service. Inj Prev. 2012;18(4):228-233. 6.Frost DM, Beach TAC, Crosby I, McGill SM. The cost and distribution of firefighter injuries in a large Canadian Fire Department. Work. 2016;55(3):497

Burgess JL. Beyond the fireground: Injuries in the fire service. Inj Prev. 2012;18(4):228-233. **6.**Frost DM, Beach TAC, Crosby I, McG SM. The cost and distribution of firefighter injuries in a large Canadian Fire Department. Work. 2016;55(3):497-504.doi:10.3233/WOR-162420 **Acknowledgements:** Thank you to the FIREWELL firefighter collaborators for their support of this research. The Canadian Institutes of Health Research (FRN: HPW -146016) supported this work. NCP is supported by a CIHR Undergraduate Summer Studentship Award. JCM is supported by a CIHR Chair in Gender, Work and Health, and the Dr. James Roth Research Chair in Musculoskeletal Measurement and Knowledge Translation









