Impact of professional cultures on adoption and usage of technology

Professional cultures were found to impact emergency managers' adoption and use of technologies. To be used effectively a technological tool must be "attuned to the unique settings and professional cultures of the local emergency management communities" (Marincioni 2007). But professional cultures can also impact technology use during a disaster. Indeed working people can be considered as a vulnerable group for certain kinds of disaster. When there is a strong corporate culture or strong incentives, workers can adopt specific technologies for risk reduction. Below is a case study of how technologies can be created and adopted by workers to protect themselves from heat waves. Case study: protecting workers from heat waves, how technologies can help safeguarding their health Heat waves are a disaster often faced by European populations and are expected to increase due to climate change. To date, an increase in mortality associated with high temperatures has been observed in nearly all populations (Morabito, Crisci, et al. 2012; Ishigami et al. 2008). Workers are one of the most at-risk categories when exposed to high temperatures/heat waves. Their risk of injuries (Morabito et al. 2006; Xiang et al. 2013; Adam-Poupart et al. 2015) and death (Petitti et al. 2013) due to excessive heat exposure is projected to worsen in the coming years. Exposure to extreme heat in fact can result in occupational illness caused by heat stress, including heat stroke, heat exhaustion, heat syncope, heat cramps, heat rashes or death. In addition, heat can increase the workers' risk of injuries also caused by a reduction of the brain function. To address this hazard, a great number of influential bodies worldwide have been responsible for the development of standardized methods to safeguard the health of workers in hot workplaces. They have also introduced the benefits from the use of various technologies in addressing the issue (Bethea & K. 2002). For example, the Occupational Safety and Health Administration (OSHA), in collaboration with the US Department of Labour (DOL), has developed a "Heat Safety Tool" phone application, which is available for download on iOS and Android devices in English and Spanish languages (https://www.osha.gov/SLTC/heat illness/heat_index/heat_app.html). Workers can use this app to calculate the heat index (Steadman 1979) at their worksite and determine heat illness risk levels (Figure 4.1 - as shown in source document). The heat index combines air temperature and relative humidity, in shaded areas (but there is a version also able to account for the wind and solar radiation effects), as an attempt to determine the human-perceived equivalent temperature, as for how hot it would feel if the humidity were some other value in the shade. However, it should be kept in mind that working in full sunlight can increase the heat index values by 15 degrees Fahrenheit. This App allows workers and supervisors to calculate the heat index for their worksite, monitoring themselves and others for heat illness signs and symptoms. Furthermore, the app, displays a risk level to outdoor workers. In the new version of the App (2015) OSHA has included full-screen colour alerts for all heat conditions, as well as other technical upgrades. Then, with a simple "click", workers and employers get reminders about the protective measures that should be taken at the specific risk level (Figure 4.2 - as shown in source document) to protect themselves from heat-related illness- reminders. Moreover, preventive measures are recommended, such as drinking enough fluids, scheduling rest

breaks, planning for and knowing what to do in an emergency, adjusting work operations, gradually building up the workload for new workers, training on heat illness signs and symptoms, etc. More research, or at least data are needed to document the effective use of the app. In Europe, although the issue of safeguarding health in the workplace is strongly felt, there are no common specific heat health warning systems for workers. Within the European Union project Heat-shield a web platform and associated smartphone applications will be created and the heat-related health risk warnings will be transferred directly to the registered workers. The warnings will be communicated through a specific bulletin calibrated for each European region and for each work category and it will be sent by e-mail to users by using freely available online informative platform.

Note: See source document for full reference.

Applicable to:

Stakeholders: <u>Norms/values</u>

Disaster Phases: <u>Response</u>

Types of Actors Concerned: <u>Healthcare and emergency services</u>

Hazards: <u>Natural hazards</u>, <u>Man-made non-intentional hazards or emergency situations</u>, <u>Man-made intentional hazards</u>

Source

Deliverable D3.1 "Cultural factors and technologies" (page 47)

This file was generated automatically on: 12.02.2019.

Impact of professional cultures on adoption and usage of technology

https://culturalmap.carismand.eu/a/3-1-26-impact-of-professional-cultures-on-adoption-and-usage-of-technology