

CPH News and Views

A semi-monthly column on emerging topics related to healthy workplaces

Issue #46: Trends in resident handling equipment use in nursing homes and factors associated with consistent use

Contributed by Alicia Kurowski, University of Massachusetts Lowell

Musculoskeletal disorders, particularly low back injuries, are very common among healthcare workers (1-3). Despite evidence that using safe handling equipment reduces injuries among healthcare workers (4-7), few studies have reported on the frequency of workers' equipment use or reasons for inconsistent use of handling devices.

Surveys were distributed to nursing home employees on four survey occasions after a safe resident handling program (SRHP) began (2006-2013). We have previously reported on the program's effectiveness in terms of reduction of awkward postures and heavy manual handling (8, 9) and return-on-investment (10). However, among centers, variation in equipment use and physical workload (11) and net average savings (10) was noted.

In 8 centers where surveys were distributed all four times (3 months, 12 months, 24 months, 60+ months post-SRHP), responses from 776 nursing aides were examined to learn more about variation in SRHP effectiveness. The frequency of resident handling equipment use, reasons for not using it consistently, and work organization and individual characteristics related to differences in frequency of use were examined.

At least two-thirds of nursing aides reported using devices "often" or "always" on each survey (Figure 1). The biggest reasons for not using equipment were consistently "device not available when needed" and "residents dislike" (Figure 2). In particular, these were the reasons reported most by the "often" and "always" users (Figure 3). Also, "not enough time" to use the lifts became a less important barrier over time, for most workers (Figure 2).

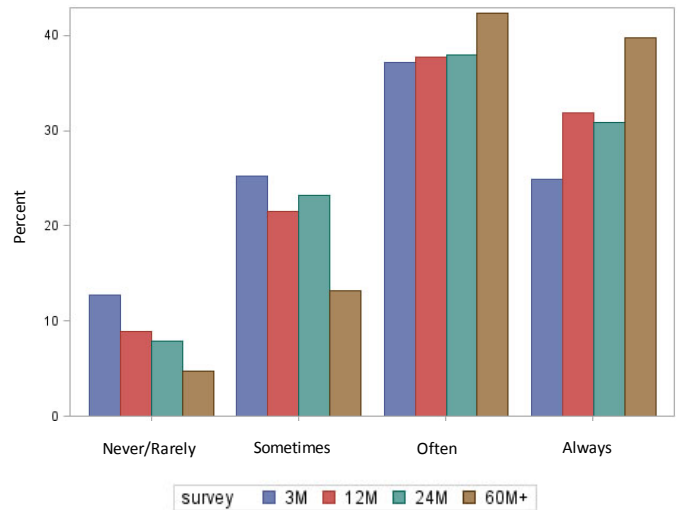


Figure 1: Frequency of resident handling equipment use in four surveys

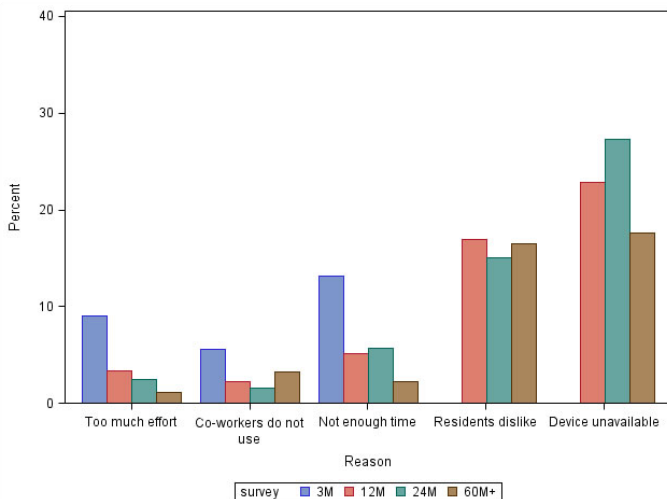


Figure 2: Reasons for not using equipment reported in four surveys

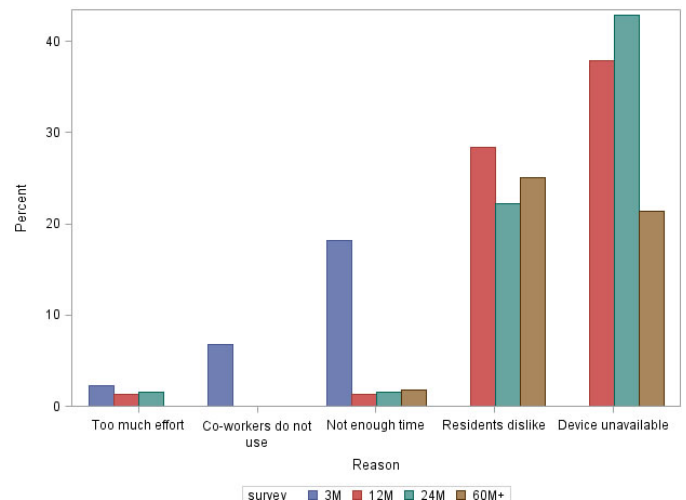


Figure 3: Reasons reported for not using equipment by "always" users, by survey

Several personal and work environment factors were found to be associated with higher equipment use. Higher perceived staff engagement in the program and higher prior expectations of its benefits were each related to higher equipment use. Older employees used equipment more frequently, which may be due to their greater experience or to their perceived vulnerability to back injury. Employees with higher health self-efficacy have stronger beliefs in their ability to improve their health and overcome barriers, so it is not surprising that they used equipment more frequently. Having been assaulted at work was somewhat related to lower equipment use. While the exact reason was not stated, it is plausible that aides may avoid using equipment with residents who have previously assaulted them. It is unclear why lower supervisor support was related to higher equipment use, since the opposite was expected. This is even more surprising because supervisor support was strongly related to perceived staff engagement, which included four items related to supportive supervisors/management and was also related to higher equipment use.

Recommendations: When implementing and evaluating safe handling interventions, barriers to consistent equipment use should be addressed, through measures such as:

- Attention to device availability and maintenance
- Increasing workers' decision-making opportunities and empowerment, in general
- Education of residents and their family members as to the value of the SRHP

References

1. Powell-Cope G, Toyinbo P, Patel N, et al. Effects of a national safe patient handling program on nursing injury incidence rates. *JONA*. 2014; 44(10):525-534.
2. Schoenfisch AL, Lipscomb HJ. Job characteristics and work organization factors associated with patient-handling injury among nursing personnel. *Work*. 2009; 33:117-128.
3. Pompeii LA, Lipscomb HJ, Schoenfisch AL, Dement JM. Musculoskeletal injuries resulting from patient handling tasks among hospital workers. *AJIM*. 2009; 52:571-578.
4. Charney DOH, Simmons B, Lary M, Metz S. Zero lift programs in small rural hospitals in Washington State. *AAOHN* 2006; 54(8):355-358.
5. Nelson A, Matz M, Chen F, Siddharthan K, Lloyd J, Fragala G. Development and evaluation of a multifaceted ergonomics program to prevent injuries associated with patient handling tasks. *Int J Nurs Stud*. 2006; 43(6):717-33.
6. Evanoff B, Wolf L, Aton E, Canos J, Collins J. Reduction in injury rates in nursing personnel through introduction of mechanical lifts in the workplace. *AJIM*. 2003; 44(5):451-457.
7. Fujishiro K, Weaver JL, Heaney CA, Hamrick CA and Marras WS. The effect of ergonomic interventions in healthcare facilities on musculoskeletal disorders. *AJIM*. 2005; 48:338-47.
8. Kurowski A, Boyer J, Fulmer S, Gore R, Punnett L. Changes in ergonomic exposures of nursing assistants after the introduction of a safe resident handling program in nursing homes. *Int J Ind Ergonom*. 2012; 42:525-532.
9. Kurowski A, Buchholz B, Punnett L. A physical workload index to evaluate a safe resident handling program for clinical staff in nursing homes. *Hum Factors*. 2014; 56(4):669-683.
10. Lahiri S, Latif S, Punnett L, ProCare Research Team. An economic analysis of a safe resident handling program in nursing homes. *AJIM*. 2013; 56(4):469-478.
11. Kurowski A, Gore R, Buchholz B, Punnett L. Differences among nursing homes in outcomes of a safe resident handling program. *J Healthc Risk Manag*. 2012; 32(1):35-51.

Alicia Kurowski is a post-doctoral research fellow at UMass Lowell and CPH-NEW. She is trained in occupational ergonomics and interested in exposure assessment, injury epidemiology, and return-to-work issues.



CPH-NEW is a Center for Excellence to Promote a Healthier Workforce of the National Institute for Occupational Safety and Health. CPH-News & Views is a semi-monthly column written by Center researchers on emerging topics related to healthy workplaces. These comments reflect thoughts of the individual researchers and do not represent conclusive research summaries, nor do they necessarily reflect a consensus among all Center personnel.

We welcome your responses and discussion. Please send all questions and comments to CPHNEW@uml.edu.