



RESEARCH IN A SNAP

OVERVIEW

We're keeping you updated on papers added to The Center's Knowledge Repository.

Knowledge Repository News

Welcome back from summer and Labor Day. Maybe you don't have to think about recovering from summer brain drain after a few months off from school. But then again, back-to-school time is a good time to get back into the habit of challenging those gray cells! Enjoy the latest 43 additions to the Knowledge Repository.

Acoustics continues to be an area of interest with eight papers exploring the beneficial or detrimental aspects of the built environment on acoustics in healthcare settings. Sound can be a supportive feature, such as the effect of self-selected music on anxiety or "pleasant natural sounds" for speedier recovery, while noise can become detrimental as a latent (underlying) condition for error, injury, or workplace stress.

(Published ahead of print "in press" will be updated as volume and page information becomes available.)

July-August 2017

Acoustics/Sound

1. Aletta, F., Botteldooren, D., Thomas, P., Vander Mynsbrugge, T., De Vriendt, P., Van de Velde, D., & Devos, P. (2017). Monitoring Sound Levels and Soundscape Quality in the Living Rooms of Nursing Homes: A Case Study in Flanders (Belgium). *Applied Sciences*, 7(9), 874. <https://doi.org/10.3390/app7090874>
2. Iyendo, T. O. (2016). Exploring the effect of sound and music on health in hospital settings: A narrative review. *International Journal of Nursing Studies*, 63, 82–100. <https://doi.org/10.1016/j.ijnurstu.2016.08.008>
3. Iyendo, T. O. (2017). Sound as a supportive design intervention for improving health care experience in the clinical ecosystem: A qualitative study. *Complementary Therapies in Clinical Practice*, 29, 58–96. <https://doi.org/10.1016/j.ctcp.2017.08.004>
4. Locke, C. L., & Pope, D. S. (2017). Assessment of Medical-Surgical Patients' Perception of Hospital Noises and Reported Ability to Rest. *Clinical Nurse Specialist*, 31(5), 261–267. <https://doi.org/10.1097/NUR.0000000000000321>
5. McClurkin, S. L., & Smith, C. D. (2016). The Duration of Self-Selected Music Needed to Reduce Preoperative Anxiety. *Journal of PeriAnesthesia Nursing*, 31(3), 196–208. <https://doi.org/10.1016/j.jopan.2014.05.017>

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RESEARCH · DESIGN
connections



6. Quinn, M. (2017). How does staff perceive the sound environment in operating theatres with the present standards and building regulations? In IC BEN 2017 Congress Proceedings. Zurich, Switzerland. Retrieved from http://www.icben.org/2017/ICBEN%202017%20Papers/SubjectArea04_Quinn_0407_3669.pdf
7. Romeu, J., Cotrina, L., Perapoch, J., & Linés, M. (2016). Assessment of environmental noise and its effect on neonates in a Neonatal Intensive Care Unit. *Applied Acoustics*, 111, 161–169. <https://doi.org/10.1016/j.apacoust.2016.04.014>
8. Smith, A. (2017). Effects of noise on errors, injuries and subjective health of nursing staff. In IC BEN 2017 Congress Proceedings (pp. 1–8). Zurich, Switzerland.

Infection Control

9. García-Lecona, D. A., Garza-González, E., Padilla-Orozco, M., Mendoza-Flores, L., Flores-Treviño, S., Mendoza-Olazarán, S., & Camacho-Ortiz, A. (2017). Outcomes of *Clostridium difficile*-infected patients managed in a common isolation unit compared with isolation in their bed of diagnosis. *American Journal of Infection Control*, in press. <https://doi.org/10.1016/j.ajic.2017.06.006>
10. Garibaldi, B. T., & Chertow, D. S. (2017). High-Containment Pathogen Preparation in the Intensive Care Unit. *Infectious Disease Clinics of North America*, 31(3), 561–576. <https://doi.org/10.1016/j.idc.2017.05.008>
11. Platt, L. S., & Greene, M. (2017). Increasing Patient Safety Through Resilient Design: Using Human Factors Engineering and Environmental Support Mechanisms to Reduce Potentials of Hospital Acquired Infection. In *Advances in Human Factors and Ergonomics in Healthcare and Medical Devices* (pp. 3–10). Los Angeles: Springer, Cham. https://doi.org/10.1007/978-3-319-60483-1_1
12. Stackelroth, J., Sinnott, M., & Shaban, R. Z. (2015). Hesitation and error: Does product placement in an emergency department influence hand hygiene performance? *American Journal of Infection Control*, 43(9), 913–916. <https://doi.org/10.1016/j.ajic.2015.04.199>

Safety (Worker and Patient)

13. Davis, J., Kutash, M., & Iv, J. W. (2017). A comparative study of patient sitters with video monitoring versus in-room sitters. *Journal of Nursing Education and Practice*, 7(3), 137. <https://doi.org/10.5430/jnep.v7n3p137>
14. Fisher, K. (2016). Inpatient Violence. *Psychiatric Clinics of North America*, 39(4), 567–577. <https://doi.org/10.1016/j.psc.2016.07.005>
15. Lenaghan, P. A., Cirrincione, N. M., & Henrich, S. (2017). Preventing Emergency Department Violence through Design. *Journal of Emergency Nursing*, in press. <https://doi.org/10.1016/j.jen.2017.06.012>



16. Schneeberger, A. R., Kowalinski, E., Fröhlich, D., Schroeder, K., Felten, S., Zinkler, M., ... Huber, C. G. (2017). Aggression and violence in psychiatric hospitals with and without open door policies: A 15-year naturalistic observational study. *Journal of Psychiatric Research*, in press. <https://doi.org/10.1016/j.jpsychires.2017.08.017>
17. Stowell, K. R., Hughes, N. P., & Rozel, J. S. (2016). Violence in the Emergency Department. *Psychiatric Clinics of North America*, 39(4), 557–566. <https://doi.org/10.1016/j.psc.2016.07.003>
18. Sze, G., Bluth, E. I., Bender, C. E., & Parikh, J. R. (2017). Work-Related Injuries of Radiologists and Possible Ergonomic Solutions: Recommendations From the ACR Commission on Human Resources. *Journal Of The American College Of Radiology*. <https://doi.org/10.1016/j.jacr.2017.06.021>
19. Votruba, L., Graham, B., Wisinski, J., & Syed, A. (2016). Video monitoring to reduce falls and patient companion costs for adult inpatients. *Nursing Economics*, 34(4), 185.

Special Populations (Neonates, Elders, etc.)

20. Anåker, A., von Koch, L., Sjöstrand, C., Bernhardt, J., & Elf, M. (2017). A comparative study of patients' activities and interactions in a stroke unit before and after reconstruction—The significance of the built environment. *PLOS ONE*, 12(7), e0177477. <https://doi.org/10.1371/journal.pone.0177477>
21. Doede, M., Trinkoff, A. M., & Gurses, A. P. (2017). Neonatal Intensive Care Unit Layout and Nurses' Work. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586717713734>
22. Easton, T., Milte, R., Crotty, M., & Ratcliffe, J. (2017). Where's the evidence? a systematic review of economic analyses of residential aged care infrastructure. *BMC Health Services Research*, 17(1), in press. <https://doi.org/10.1186/s12913-017-2165-8>
23. Lorusso, L. N., & Bosch, S. J. (n.d.). Impact of Multisensory Environments on Behavior for People With Dementia: A Systematic Literature Review. *The Gerontologist*. <https://doi.org/10.1093/geront/gnw168>
24. Sandal, L. F., Thorlund, J. B., Moore, A. J., Ulrich, R. S., Dieppe, P. A., & Roos, E. M. (2017). Room for improvement: a randomised controlled trial with nested qualitative interviews on space, place and treatment delivery. *British Journal of Sports Medicine*, in press. <https://doi.org/10.1136/bjsports-2016-097448>
25. Smit, D., de Lange, J., Willemse, B., & Pot, A. M. (2017). Predictors of activity involvement in dementia care homes: a cross-sectional study. *BMC Geriatrics*, 17(1), 175. <https://doi.org/10.1186/s12877-017-0564-7>
26. Thurman, W., Harrison, T. C., Blozis, S. A., Dionne-Vahalik, M., & Mead, S. (2017). A Capabilities Approach to Environmental Impact on Nursing Home Resident Quality of Life. *Research in Gerontological Nursing*, 10(4), 162–170. <https://doi.org/10.3928/19404921-20170621-03>



27. van den Hoogen, A., Teunis, C. J., Shellhaas, R. A., Pillen, S., Benders, M., & Dudink, J. (2017). How to improve sleep in a neonatal intensive care unit: A systematic review. *Early Human Development*, in press. <https://doi.org/10.1016/j.earlhumdev.2017.07.002>
28. Wingler, D., Joseph, A., & Joshi, R. (2017). An Ergonomic Evaluation of Preoperative and Postoperative Workspaces in Ambulatory Surgery Centers. In *Advances in Human Factors and Ergonomics in Healthcare and Medical Devices* (pp. 11–21). Los Angeles: Springer, Cham. https://doi.org/10.1007/978-3-319-60483-1_2

Inpatient Room Design

29. Andrade, C. C., Devlin, A. S., Pereira, C. R., & Lima, M. L. (2017). Do the hospital rooms make a difference for patients' stress? A multilevel analysis of the role of perceived control, positive distraction, and social support. *Journal of Environmental Psychology*, 53, 63–72. <https://doi.org/10.1016/j.jenvp.2017.06.008>
30. Patterson, E. S., Sanders, E., Sommerich, C. M., Evans, K. D., Lavender, S. A., & Li, J. (2017). The Environmental Services Perspective on Hospital Room Design: A Mixed-Methods Approach. In *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care* (pp. 104–108). New Orleans, LA: Human Factors and Ergonomics Society. <https://doi.org/10.1177/2327857917061023>
31. Perovic, V., & Perovic, S. (2017). Influence of Hospital Room Environment on the Reduction of Anxiety and Depression in the Early Stage of Stroke. *Journal of Environmental Protection and Ecology*, 18, 710–719.

Design Process

32. El Kady, A., Sami, S. A., & Eldeib, A. M. (2017). A Two Stage Heuristics for Improvement of Existing Multi Floor Healthcare Facility Layout. In *Proceedings of the 9th International Conference on Bioinformatics and Biomedical Technology* (pp. 97–101). New York, NY, USA: ACM. <https://doi.org/10.1145/3093293.3093308>
33. Mitchell, B. G., Williams, A., & Wong, Z. (2017). Assessing the functionality of temporary isolation rooms. *American Journal of Infection Control*, in press. <https://doi.org/10.1016/j.ajic.2017.05.019>
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Building Systems/Facilities Management

36. Ufat, H., Kaynakli, O., Yamankaradeniz, N., & Yamankaradeniz, R. (2017). Three-dimensional air distribution analysis of different outflow typed operating rooms at different inlet velocities and room temperatures. *Advances in Mechanical Engineering*, 9(7), 1–12. <https://doi.org/10.1177/1687814017707414>
37. Yousefli, Z., Nasiri, F., & Moselhi, O. (2017). Healthcare facilities maintenance management: a literature review. *Journal of Facilities Management*, in press. <https://doi.org/10.1108/JFM-10-2016-0040>

Other

38. Cai, H., & Zimring, C. (2017). Cultural impacts on nursing unit design: A comparative study on Chinese nursing unit typologies and their U.S. counterparts using space syntax. *Environment and Planning B: Urban Analytics and City Science*, in press. <https://doi.org/10.1177/2399808317715639>
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40. Dai, D., Prussin, A. J., Marr, L. C., Vikesland, P. J., Edwards, M. A., & Pruden, A. (2017). Factors Shaping the Human Exposome in the Built Environment: Opportunities for Engineering Control. *Environmental Science & Technology*, 51(14), 7759–7774. <https://doi.org/10.1021/acs.est.7b01097>
41. Djukanovic, Z., Maric, J., & Giofrè, F. (2017). Evaluation of hospital outdoor spaces through users' participation analysis. *Facta Universitatis, Series: Architecture and Civil Engineering*, 15(1), 73–84. <https://doi.org/10.2298/FUACE161121005D>
42. Elrod, J. K., & Fortenberry, J. L. (2017). Adaptive reuse in the healthcare industry: repurposing abandoned buildings to serve medical missions. *BMC Health Services Research*, 17(S1). <https://doi.org/10.1186/s12913-017-2339-4>
43. Sicignano, E., Petti, L., di Ruocco, G., & Scarpitta, N. (2017). A Model Flexible Design for Pediatric Hospital. In *Putting Tradition into Practice: Heritage, Place and Design* (pp. 1464–1472). Springer, Cham. https://doi.org/10.1007/978-3-319-57937-5_152