



RESEARCH IN A SNAP

OVERVIEW

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

Knowledge Repository News

With summer upon us, think about your vacation and beach reading. Maybe it's time to catch up on all that research? We've added nearly 50 new citations in the past two months to get you started. Interested in design for mental and behavioral health? There are almost a dozen new citations focus on this topic. If designing for these special populations is important in your work, you may also want to consider The Center's [day-long workshop in September](#) where industry experts will share their insights. Interested in "upping your game" with a new design or research process? Consider the nine new additions under the Research Methods & Design Process category. Are you or are you working with a nurse? There are some papers here for you, too.

Think of it. Summer reading. At its best.

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

May-June 2017

Special Populations (Mental & Behavioral Health)

1. Collier, L., & Jakob, A. (2016). The Multisensory Environment (MSE) in Dementia Care: Examining Its Role and Quality From a User Perspective. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716683508>
2. Donald, F., Duff, C., Lee, S., Kroschel, J., & Kulkarni, J. (2015). Consumer perspectives on the therapeutic value of a psychiatric environment. *Journal of Mental Health*, 24(2), 63-67. <https://doi.org/10.3109/09638237.2014.954692>
3. Ferdous, F., & Moore, K. D. (2015). Field Observations into the Environmental Soul: Spatial Configuration and Social Life for People Experiencing Dementia. *American Journal of Alzheimer's Disease & Other Dementias?*, 30(2), 209-218. <https://doi.org/10.1177/1533317514545378>
4. Goto, S., Gianfagia, T. J., Munafo, J. P., Fujii, E., Shen, X., Sun, M., ... Herrup, K. (2016). The Power of Traditional Design Techniques: The Effects of Viewing a Japanese Garden on Individuals With Cognitive Impairment. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716680064>

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RESEARCH · DESIGN
CONNECTIONS



5. Huber, C. G., Schneeberger, A. R., Kowalinski, E., Fröhlich, D., von Felten, S., Walter, M., ... Lang, U. E. (2016). Suicide risk and absconding in psychiatric hospitals with and without open door policies: a 15 year, observational study. *The Lancet Psychiatry*, 3(9), 842–849.
[https://doi.org/10.1016/S2215-0366\(16\)30168-7](https://doi.org/10.1016/S2215-0366(16)30168-7)
6. Isobel, S., Foster, K., & Edwards, C. (2015). Developing family rooms in mental health inpatient units: an exploratory descriptive study. *BMC Health Services Research*, 15(1). <https://doi.org/10.1186/s12913-015-0914-0>
7. Kanakri, S. M., Shepley, M., Varni, J. W., & Tassinari, L. G. (2017). Noise and autism spectrum disorder in children: An exploratory survey. *Research in Developmental Disabilities*, 63, 85–94.
<https://doi.org/10.1016/j.ridd.2017.02.004>
8. Mackey, S., & Bornstein, S. (2017). *Mental Health Units in Acute-Care Facilities (Rapid Evidence Report)* (pp. 1–26). Newfoundland, Canada: Newfoundland & Labrador Centre for Applied Health Research (NLCAHR). Retrieved from
http://www.nlcahr.mun.ca/CHRSP/RER_MH_Units_Jan_2017.pdf
9. Nijman, H., Bowers, L., Haglund, K., Muir-Cochrane, E., Simpson, A., & Van Der Merwe, M. (2011). Door locking and exit security measures on acute psychiatric admission wards: Door locking on admission wards. *Journal of Psychiatric and Mental Health Nursing*, 18(7), 614–621.
<https://doi.org/10.1111/j.1365-2850.2011.01716.x>
10. Pyrke, R. J. L., McKinnon, M. C., McNeely, H. E., Ahern, C., Langstaff, K. L., & Bieling, P. J. (2017). Evidence-Based Design Features Improve Sleep Quality Among Psychiatric Inpatients. *HERD: Health Environments Research & Design Journal*, in press.
<https://doi.org/10.1177/1937586716684758>
11. Ramadan, M. G. (2016). Towards Healing Environment for the Inpatient Unit in Psychiatric Hospital. In *Proceedings of 2016 International Conference on Architecture, Structure & Civil Engineering*. London, UK: Universal Researchers. <https://doi.org/10.17758/UR.U0316315>

Acoustics & Vibration Control

12. Ahamed, M. F., Campbell, D., Horan, S., & Rosen, O. (2017). Noise Reduction in the Neonatal Intensive Care Unit: A Quality Improvement Initiative. *American Journal of Medical Quality*, In press.
<https://doi.org/10.1177/1062860617711563>
13. Johansson, L., Lindahl, B., Knutsson, Ögren, M., Persson Wayne, K., & Ringdal, M. (2017). Evaluation of a sound environment intervention in an ICU: A feasibility study. *Australian Critical Care*, in press.
<https://doi.org/10.1016/j.aucc.2017.04.001>
14. McNeer, R. R., Bennett, C. L., Horn, D. B., & Dudaryk, R. (2017). Factors Affecting Acoustics and Speech Intelligibility in the Operating Room: Size Matters. *Anesthesia & Analgesia*, 124(6), 1978–1985.
<https://doi.org/10.1213/ANE.0000000000002118>



15. Pridham, B., Walters, N., Nelson, L., & Roeder, B. (2017). Addressing Parking Garage Vibrations for the Design of Research and Healthcare Facilities. In *Dynamics of Civil Structures* (Vol. 2, pp. 321–327). Garden Grove, CA: Springer, Cham. https://doi.org/10.1007/978-3-319-54777-0_19
16. Sato, H., Morimoto, M., Ohtani, S., Hoshino, Y., & Sato, H. (2017). Subjective evaluation of speech privacy at consulting rooms in hospitals: Relationship between feeling evoked by overhearing speech and word intelligibility score. *Applied Acoustics*, 124, 38–47. <https://doi.org/10.1016/j.apacoust.2017.03.020>
17. Secchi, S., Astolfi, A., Calosso, G., Casini, D., Cellai, G., Scamoni, F., ... Shtrepi, L. (2017). Effect of outdoor noise and façade sound insulation on indoor acoustic environment of Italian schools. *Applied Acoustics*, 126, 120–130. <https://doi.org/10.1016/j.apacoust.2017.05.023>
18. Wesolowsky, M., Wong, M. W. Y., Busch, T. A., & Swallow, J. C. (2017). The Day the Earth Shook: Controlling Construction-Induced Vibrations in Sensitive Occupancies. In *Dynamics of Civil Structures* (Vol. 2, pp. 321–327). Garden Grove, CA: Springer, Cham. https://doi.org/10.1007/978-3-319-54777-0_40

Design & Nursing

19. Copeland, D., & Chambers, M. (2016). Effects of Unit Design on Acute Care Nurses' Walking Distances, Energy Expenditure, and Job Satisfaction: A Pre-Post Relocation Study. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716673831>
20. Donetto, S., Penfold, C., Anderson, J., Robert, G., & Maben, J. (2017). Nursing work and sensory experiences of hospital design: A before and after qualitative study following a move to all-single room inpatient accommodation. *Health & Place*, 46, 121–129. <https://doi.org/10.1016/j.healthplace.2017.05.001>
21. Fay, L., Carll-White, A., Schadler, A., Isaacs, K., & Real, K. (2017). Shifting Landscapes: The Impact of Centralized and Decentralized Nursing Station Models on the Efficiency of Care. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586717698812>
22. Zhang, M., Zhang, X., Chen, F., Dong, B., Chen, A., & Zheng, D. (2017). Effects of room environment and nursing experience on clinical blood pressure measurement: an observational study. *Blood Pressure Monitoring*, 22(2), 79–85. <https://doi.org/10.1097/MBP.0000000000000240>
23. Sundberg, F., Olausson, S., Fridh, I., & Lindahl, B. (2017). Nursing staff's experiences of working in an evidence-based designed ICU patient room—An interview study. *Intensive and Critical Care Nursing*, in press. <https://doi.org/10.1016/j.iccn.2017.05.004>



Infection Control

24. Chen, Y.-C., Lin, C.-F., Rehn, Y.-J. F., Chen, J.-C., Chen, P.-Y., Chen, C.-H., ... Huang, F.-L. (2017). Reduced nosocomial infection rate in a neonatal intensive care unit during a 4-year surveillance period. *Journal of the Chinese Medical Association*, In press. <https://doi.org/10.1016/j.jcma.2017.02.006>
25. Milonova, S., Brandston, H. M., Rudnick, S., Ngai, P., Simonson, K., Rahman, S. F., & Nardell, E. (2017). A design for a more efficient, upper room germicidal ultraviolet air disinfection luminaire. *Lighting Research & Technology*, in press, 1–12. <https://doi.org/10.1177/1477153517711216>
26. Şimşek, E. M., Grassie, S. S., Emre, C., & Gevrek, S. Ç. (2017). Relationship between Environmental Conditions and Nosocomial Infection Rates in Intensive Care Unit. *Medical Journal of Islamic World Academy of Sciences*, 25(1), 15–18. <https://doi.org/10.5505/ias.2017.66742>
27. Souli, M., Antoniadou, A., Katsarolis, I., Mavrou, I., Paramythiotou, E., Papadomichelakis, E., ... Armaganidis, A. (2017). Reduction of Environmental Contamination With Multidrug-Resistant Bacteria by Copper-Alloy Coating of Surfaces in a Highly Endemic Setting. *Infection Control and Hospital Epidemiology*, in press, 1–7. <https://doi.org/10.1017/ice.2017.52>

Lighting

28. Andersen, M. (2015). Unweaving the human response in daylighting design. *Building and Environment*, 91, 101–117. <https://doi.org/10.1016/j.buildenv.2015.03.014>
29. Nioi, A., Roe, J., Gow, A., McNair, D., & Aspinall, P. (2017). Seasonal Differences in Light Exposure and the Associations With Health and Well-Being in Older Adults Living: An Exploratory Study. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586717697650>

HVAC, Mechanical, Plumbing

30. Bivolarova, M. P., Melikov, A. K., Mizutani, C., Kajiwara, K., & Bolashikov, Z. D. (2016). Bed-integrated local exhaust ventilation system combined with local air cleaning for improved IAQ in hospital patient rooms. *Building and Environment*, 100, 10–18. <https://doi.org/10.1016/j.buildenv.2016.02.006>
31. Iddon, C. R., Mills, T. C., Giridharan, R., & Lomas, K. J. (2015). The influence of hospital ward design on resilience to heat waves: An exploration using distributed lag models. *Energy and Buildings*, 86, 573–588. <https://doi.org/10.1016/j.enbuild.2014.09.053>
32. Sun, Y., & Huang, Q. on. (2017). A Comparative Study of Design Strategies for Lobby of Outpatient Department of Hospital Buildings in Cold Climate Region in China. In *Procedia Engineering* (Vol. 180, pp. 471–479). Sydney, Australia: Elsevier. <https://doi.org/10.1016/j.proeng.2017.04.206>



33. Vaccari, M., Montasser, W., Tudor, T., & Leone, L. (2017). Environmental audits and process flow mapping to assess management of solid waste and wastewater from a healthcare facility: an Italian case study. *Environmental Monitoring and Assessment*, 189(5), 239. <https://doi.org/10.1007/s10661-017-5940-4>

Research Methods & Design Process

34. Carayon, P., Kianfar, S., Li, Y., Xie, A., Alyousef, B., & Wooldridge, A. (2015). A Systematic Review of Mixed Methods Research on Human Factors and Ergonomics in Health Care. *Applied Ergonomics*, 51, 291–321. <https://doi.org/10.1016/j.apergo.2015.06.001>
35. Castro, M. de F., Mateus, R., & Bragança, L. (2017). Development of a healthcare building sustainability assessment method – Proposed structure and system of weights for the Portuguese context. *Journal of Cleaner Production*, 148, 555–570. <https://doi.org/10.1016/j.jclepro.2017.02.005>
36. Gormley, T., Markel, T. A., Jones, H. W., Wagner, J., Greeley, D., Clarke, J. H., ... Ostojic, J. (2017). Methodology for analyzing environmental quality indicators in a dynamic operating room environment. *American Journal of Infection Control*, 45(4), 354–359. <https://doi.org/10.1016/j.ajic.2016.11.001>
37. Keys, Y., Silverman, S. R., & Evans, J. (2016). Identification of Tools and Techniques to Enhance Interdisciplinary Collaboration During Design and Construction Projects. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716684135>
38. McDowell, A. L., & Huang, Y.-L. (2012). Selecting a pharmacy layout design using a weighted scoring system. *American Journal of Health-System Pharmacy*, 69(9), 796–804. <https://doi.org/10.2146/ajhp100687>
39. Rismanchian, F., & Lee, Y. H. (2016). Process Mining–Based Method of Designing and Optimizing the Layouts of Emergency Departments in Hospitals. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716674471>
40. Valdez, R. S., McGuire, K. M., & Rivera, A. J. (2017). Qualitative ergonomics/human factors research in health care: Current state and future directions. *Applied Ergonomics*, 62, 43–71. <https://doi.org/10.1016/j.apergo.2017.01.016>
41. Verma, H., Alavi, H., & Lalanne, D. (2017). Studying Space Use: Bringing HCI Tools to Architectural Projects. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (pp. 3856–3866). Denver, CO: ACM. <https://doi.org/10.1145/3025453.3026055>
42. Water, T., Wrapson, J., Reay, S., Tokolahi, E., & Payam, S. (2017). Participatory art based research with children’s to gain their perspectives on designing health care environments. *Contemporary Nurse*, in press, 1–20. <https://doi.org/10.1080/10376178.2017.1339566>



Other

43. Davidson, K. W., Shaffer, J., Ye, S., Falzon, L., Emeruwa, I. O., Sundquist, K., ... Ting, H. H. (2017). Interventions to improve hospital patient satisfaction with healthcare providers and systems: a systematic review. *BMJ Quality & Safety*, 26(7), 596–606. <https://doi.org/10.1136/bmjqs-2015-004758>
44. Hajdu, G., Carey, B., Lazarević, G., & Weymann, E. (2017). From Atmosphere to Intervention: The circular dynamic of installations in hospital waiting areas. Presented at the NIME 2017, Copenhagen: The International Conference on New Interfaces for Musical Expression. Retrieved from <http://homes.create.aau.dk/dano/nime17/papers/0069/paper0069.pdf>
45. Joseph, A., Bayramzadeh, S., Zamani, Z., & Rostenberg, B. (2017). Safety, Performance, and Satisfaction Outcomes in the Operating Room: A Literature Review. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586717705107>
46. Laveaga, G. S. (2015). Building the nation of the future, one waiting room at a time: hospital murals in the making of modern Mexico. *History and Technology*, 31(3), 275–294. <https://doi.org/10.1080/07341512.2015.1130290>
47. Reeve, A., Nieberler-Walker, K., & Desha, C. (2017). Healing gardens in children's hospitals: Reflections on benefits, preferences and design from visitors' books. *Urban Forestry & Urban Greening*, 26, 48–56. <https://doi.org/10.1016/j.ufug.2017.05.013>
48. Sailer, K., Pachilova, R., Kostopoulou, E., Pradinuk, R., MacKinnon, D., & Hoofwijk, T. (2013). How Strongly Programmed is a Strong Programme Building? A Comparative Analysis of Outpatient Clinics in Two Hospitals. In *Proceedings of the 9th International Space Syntax Symposium*. Seoul, Korea: Sejong University Press. Retrieved from http://www.sss9.or.kr/paperpdf/bmp/SSS9_2013_REF015_P.pdf
49. Thake, C. L., Bambling, M., Edirippulige, S., & Marx, E. (2017). A Psychoevolutionary Approach to Identifying Preferred Nature Scenes With Potential to Provide Restoration From Stress. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586717705085>