RESEARCH IN A SNAP

OVERVIEW

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

The Knowledge Repository is a collaborative effort between The Center for Health Design and our partners

Academy of Architecture for Health
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ASHE
Optimizing health care facilities

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Additional key point summaries provided by

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INSPIRING AND EDUCATING NURSES

RESEARCH DESIGN connections

Knowledge Repository News

Among the 67 new entries in the Knowledge Repository, several papers focus on the patient experience, and specifically, perceived quality of care. A study by Asan and colleagues looks at what happens when patients can view their electronic health record (EHR) on their own dedicated screen during their visit. Cai and colleagues examine the relationship between the design of the patient unit and how patients perceive staff responsiveness. And Antoniadou and colleagues conduct a literature review to understand how different types of sound (music vs. noise) impact patients, and consider the implications for a dental office environment. See these citations and more listed in the "Experience: Perceived Quality of Care" category below.

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

November - December 2022

Experience

Perceived Quality of Care (Noise, Communication, Waiting, etc.)

1. Antoniadou, M., Tziovara, P., & Antoniadou, C. (2022). The effect of sound in the dental office: Practices and recommendations for quality assurance: A narrative review. *Dentistry Journal, 10*(12). https://doi.org/10.3390/dj10120228
2. Asan, O., Choudhury, A., Somai, M. M., & Crotty, B. H. (2021). Augmenting patient safety through participation by design – An assessment of dual monitors for patients in the outpatient clinic. *International Journal of Medical Informatics, 146*, 104345. https://doi.org/10.1016/j.ijmedinf.2020.104345
3. Cai, H., Fullam, F., MacAllister, L., Fogg, L. F., Canar, J., Press, I., Weissman, C., & Velasquez, O. (2021). Impact of inpatient unit design features on overall patient experience and perceived room-level call button response. *International Journal of Environmental Research and Public Health, 18*(18). https://doi.org/10.3390/ijerph18189747
4. Manca, S., Bonaiuto, M., & Fornara, F. (2023). Perceived hospital environment quality indicators: The case of healthcare places for terminal patients. *Buildings, 13*(1). https://doi.org/10.3390/buildings13010057

Supportive Design (Social Support, Distractions, Nature, etc.)

5. Aksoy, E., Aydın, D., & İskifoğlu, G. (2022). An experimental research on the impact of spatial configurations of complex hospitals on human wayfinding performances. *IDA: International Design and Art Journal, 4*(2).

6. Brambilla, A., Mangili, S., Das, M., Lal, S., & Capolongo, S. (2022). Analysis of functional layout in emergency departments (ED). Shedding light on the free standing emergency department (FSED) model. *Applied Sciences, 12*(10). https://doi.org/10.3390/app12105099
7. Fricke, J., Siddique, S. M., Douma, C., Ladak, A., Burchill, C. N., Greysen, R., & Mull, N. K. (2022). Workplace violence in healthcare settings: A scoping review of guidelines and systematic reviews. *Trauma, Violence, & Abuse*, in press. https://doi.org/10.1177/15248380221126476
8. Hafner, C., Schneider, J., Schindler, E., & Braillard, O. (2022). Visual aids in ambulatory clinical practice: Experiences, perceptions and needs of patients and healthcare professionals. *PLoS ONE, 17*(2), e0263041–e0263041. https://doi.org/10.1371/journal.pone.0263041
9. Iftikhar, H., & Luximon, Y. (2022). Wayfinding information syntheses: A study of wayfinding efficiency and behavior in complex outdoor institutional environment. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221134590
10. Jafarifiroozabadi, R., Joseph, A., Bridges, W., & Franks, A. (2022). The impact of daylight and window views on length of stay among patients with heart disease: A retrospective study in a cardiac intensive care unit. *Journal of Intensive Medicine*. https://doi.org/10.1016/j.jointm.2022.11.002
11. Joseph, A., Neyens, D., Mihandoust, S., Taaffe, K., Allison, D., Prabhu, V., & Reeves, S. (2021). Impact of surgical table orientation on flow disruptions and movement patterns during pediatric outpatient surgeries. *International Journal of Environmental Research and Public Health, 18*(15). https://doi.org/10.3390/ijerph18158114
12. Joshi, R., Ossmann, M., & Joseph, A. (2022). Measuring potential visual exposure of physicians during shift-end handoffs and its impact on interruptions, privacy, and collaboration. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221131934
13. Kanji, F., Cohen, T., Alfred, M., Caron, A., Lawton, S., Savage, S., Shouhed, D., Anger, J. T., & Catchpole, K. (2021). Room size influences flow in robotic-assisted surgery. *International Journal of Environmental Research and Public Health, 18*(15). https://doi.org/10.3390/ijerph18157984
14. Lalezari, R., Mehdipour-Rabori, R., Dehesh, T., & Nouhi, E. (2022). The effects of ceiling display and natural sounds on stress and anxiety among cardiac patients: A randomized controlled trial. *Nursing and Midwifery Studies, 11*(2), 130–136.
15. Lim, L., Zimring, C. M., DuBose, J. R., Lee, J., Stroebel, R. J., & Matthews, M. R. (2021). Designing for effective and safe multidisciplinary primary care teamwork: Using the time of COVID-19 as a case study. *International Journal of Environmental Research and Public Health, 18*(16). https://doi.org/10.3390/ijerph18168758
16. Luke, J., Franklin, R. C., Dyson, J., & Aitken, P. (2022). Building toward a disaster resilient health system: A study of hospital resilience. *Disaster Medicine and Public Health Preparedness*, in press. https://doi.org/10.1017/dmp.2022.204
17. McCullagh, M. C., Xu, J., Dickson, V. V., Tan, A., & Lusk, S. L. (2022). Noise exposure and quality of life among nurses. *Workplace Health & Safety, 70*(4), 207–219. https://doi.org/10.1177/21650799211044365

18. Mura, A. L., Nonnis, M., Scrima, F., & Fornara, F. (2023). Promoting the work engagement of the health worker: The role of secure workplace attachment, perceived spatial-physical comfort, and relationship with patients. *Journal of Environmental Psychology, 85*, 101937. https://doi.org/10.1016/j.jenvp.2022.101937

19. Murray-Davis, B., Grenier, L. N., Plett, R. A., Mattison, C. A., Ahmed, M., Malott, A. M., Cameron, C., Hutton, E. K., & Darling, E. K. (2022). Making space for midwifery in a hospital: Exploring the built birth environment of Canada's first alongside midwifery unit. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221137099

20. Oliver, K., & Kemp, V. (2020). A comparison of nurses' work satisfaction between single-room and multioccupancy adult intensive care units: A mixed-methods integrative review. *Australian Critical Care, 33*(4), 382–389. https://doi.org/10.1016/j.aucc.2019.06.003

21. Rowe, A., & Knox, M. (2022). The impact of the healthcare environment on patient experience in the emergency department: A systematic review to understand the implications for patient-centered design. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221137097

22. Shen, X., Zhang, H., Li, Y., Qu, K., Zhao, L., Kong, G., & Jia, W. (2022). Building a satisfactory indoor environment for healthcare facility occupants: A literature review. *Building and Environment*, in press. https://doi.org/10.1016/j.buildenv.2022.109861

23. Taaffe, K., Ferrand, Y. B., Khoshkenar, A., Fredendall, L., San, D., Rosopa, P., & Joseph, A. (2022). Operating room design using agent-based simulation to reduce room obstructions. *Health Care Management Science*, in press. https://doi.org/10.1007/s10729-022-09622-3

Safety

Infection Prevention/Control

24. Amodeo, D., Lucarelli, V., De Palma, I., Puccio, A., Nante, N., Cevenini, G., & Messina, G. (2022). Efficacy of violet–blue light to inactive microbial growth. *Scientific Reports, 12*(1). https://doi.org/10.1038/s41598-022-24563-1

25. Blehm, C. J., Monteiro, M. S., Bessa, M. C., Leyser, M., Dias, A. S., Sumienski, J., Gallo, S. W., da Silva, A. B., Barros, A., Marco, R., Preve, C. P., Ferreira, C. A. S., Ramos, F., & de Oliveira, S. D. (2022). Copper-coated hospital surfaces: Reduction of total bacterial loads and resistant Acinetobacter spp. *AMB Express, 12*(1), 146. https://doi.org/10.1186/s13568-022-01491-x

26. Jackson, K., Short, C. T., Toman, K. R., Mietchen, M. S., & Lofgren, E. (2022). Transient dynamics of infection transmission in a simulated intensive care unit. *PLoS ONE, 17*(2), e0260580–e0260580. https://doi.org/10.1371/journal.pone.0260580

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COVID-19 Response

33. Bae, S. (2022). Supportive or hindering physical environments in hospital units dealing with COVID-19 patients. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221131367

34. Brusamolin, E., Brambilla, A., & Capolongo, S. (2023). Learning from COVID 19. A comparison of innovative design solutions for human-centered healthcare facilities. In A. Anzani & F. Scullica (Eds.), *The City of Care: Strategies to Design Healthier Places* (pp. 73–93). Springer International Publishing. https://doi.org/10.1007/978-3-031-14608-4_7

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37. Shah, A., Xu, J., Friedman, S., Puskas, J. D., Bhatt, H. V., & Yimen, M. (2021). Comparative analysis of intravenous pumps relocation for critically ill isolated COVID-19 patients from bedside to outside the patient room. *Journal of Intensive Care Medicine, 36*(6), 719–725. https://doi.org/10.1177/0885066621989920

38. Yang, Y.-F., Lin, Y.-J., You, S.-H., Lu, T.-H., Chen, C.-Y., Wang, W.-M., & Liao, C.-M. (2022). Control measure implications of COVID-19 infection in healthcare facilities reconsidered from human physiological and engineering aspects. *Environmental Science and Pollution Research*, in press. https://doi.org/10.1007/s11356-022-24815-7

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Care across the Lifespan

Therapeutic Environments: Behavioral/Mental Health

Psychiatric Facilities

40. Chrysikou, E., Savvopoulou, E., Biddulph, J., & Jenkin, G. (2022). Decoding the psychiatric space: Cross country comparison of facilities for mental health service users. *International Journal of Environmental Research and Public Health, 19*(14). https://doi.org/10.3390/ijerph19148832

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42. Rehn-Groenendijk, J., Chrysikou, E., & Müller, H. (2022). Everyday objects as therapeutic elements in psychiatric wards: A theoretical design framework to strengthen patients' valorization and control. *Design for Health, 6*(3), 280–295. https://doi.org/10.1080/24735132.2022.2143157

Pediatric

43. Arola, T., Aulake, M., Ott, A., Lindholm, M., Kouvonen, P., Virtanen, P., & Paloniemi, R. (2023). The impacts of nature connectedness on children's well-being: Systematic literature review. *Journal of Environmental Psychology, 85*. https://doi.org/10.1016/j.jenvp.2022.101913

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Elders/Aging

45. Chen, J., Gramegna, S. M., & Biamonti, A. (2023). A sense of home for people with dementia in a long-term care facility: A design perspective. *Health & Place, 79*, 102957. https://doi.org/10.1016/j.healthplace.2022.102957

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48. Saidane, H. A., Rasmussen, T., Andersen, K., Iversen, H. K., & West, A. S. (2022). An explorative investigation of the effect of naturalistic light on agitation-associated behavior in nursing home residents with dementia: A pilot study. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221146154

Building Systems & Technology

49. Madubuike, O. C., & Anumba, C. J. (2023). Digital twin–based health care facilities management. *Journal of Computing in Civil Engineering, 37*(2). https://doi.org/10.1061/JCCEE5.CPENG-4842

50. Taylor, A., Murakami, M., Kim, S., Chu, R., & Riek, L. D. (2022). Hospitals of the future: Designing interactive robotic systems for resilient emergency departments. *Proceedings of the ACM on Human-Computer Interaction, 6*(CSCW2), 442:1-442:40. https://doi.org/10.1145/3555543

Design & Evaluation (e.g., Process, Methods, Simulation Modeling)

51. Abd-Alhamid, F., Kent, M., & Wu, Y. (2023). Quantifying window view quality: A review on view perception assessment and representation methods. *Building and Environment, 227*, 109742. https://doi.org/10.1016/j.buildenv.2022.109742

52. Alansari, A., & Quan, X. (2022). Designing a cardiac intensive care unit by employing an evidence-based design approach. *The International Journal of Architectonic, Spatial, and Environmental Design, 17*(2), 61–81. https://doi.org/10.18848/2325-1662/CGP/v17i02/61-81

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54. Battisto, D., Li, X., Dong, J., Hall, L., & Blouin, J. (2022). Research methods used in evidence-based design: An analysis of five years of research articles from the HERD Journal. *HERD: Health Environments Research & Design Journal*, in press. https://doi.org/10.1177/19375867221125940

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Other

66. Elbatrawy, S. B., & Samra, M. (2022). Enhancing personal identity for interactive interiors via biometrics: Inpatient rooms in hospitals as a case study. *Mansoura Engineering Journal, 47*(3), 41–59.

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