



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

an AIA Knowledge Community



Design for Aging

an AIA Knowledge Community



Additional key point summaries provided by



RESEARCH DESIGN
connections

Knowledge Repository News

Among the 62 new entries in the Knowledge Repository, several papers are related to safety, and in particular, patient falls. An integrative literature review explores studies published over the past three decades on how the patient room environment contributes to falls, while a quality improvement study looks at multiple factors, including the role of the physical environment on falls in the emergency department. Three new studies focus on the role of video monitoring in reducing falls, and a four-year randomized trial in a long-term care facility analyzes the effect of compliant flooring on preventing falls and falls with injuries. Check the citations listed in the Safety: Falls category!

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

May-June 2019

Experience

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

1. Amankwah, O., Weng-Wai, C., & Mohammed, A. H. (2019). Modelling the mediating effect of health care healing environment on core health care delivery and patient satisfaction in Ghana. *Environmental Health Insights*, 13, in press. <https://doi.org/10.1177/1178630219852115>
2. Annemans, M., Van Audenhove, C., Vermolen, H., & Heylighen, A. (2018). The Role of Space in Patients' Experience of an Emergency Department: A Qualitative Study. *Journal of Emergency Nursing*, 44(2), 139–145. <https://doi.org/10.1016/j.jen.2017.11.002>
3. Bliefnick, J., & Ryherd, E. E. (2019). Evaluating patient and staff perceptions of soundscape conditions within three hospitals. *The Journal of the Acoustical Society of America*, 145, 1658–1658. <https://doi.org/10.1121/1.5101089>
4. Chi, P., Gutberg, J., & Berta, W. (2019). The conceptualization of the natural environment in healthcare facilities: A scoping review. *HERD: Health Environments Research & Design Journal*. <https://doi.org/10.1177/1937586719845118>
5. Darbyshire, J. L., Müller-Trapet, M., Cheer, J., Fazi, F. M., & Young, J. D. (2019). Mapping sources of noise in an intensive care unit. *Anaesthesia*, in press. <https://doi.org/10.1111/anae.14690>



6. Melo, M. V. S., & Souza, H. A. (2019). Analysis of the perception of users of pre-hospital architecture in light steel frame: A case study in Minas Gerais, Brazil. *Journal of Civil Engineering and Architecture*, 13(4), 251–258. <https://doi.org/10.17265/1934-7359/2019.04.004>
7. Sadek, A. H., & Willis, J. (2019). Ways to harness the built environment of ambulatory cancer facilities for comprehensive patient support: A review of the literature. *International Journal of Nursing Studies*, in press. <https://doi.org/10.1016/j.ijnurstu.2019.05.004>
8. Wijk, H., Degl' Innocenti, A., Kullgren, A., & Alexiou, E. (2019). Evidence-based design has a sustainable positive effect on patients' perceptions of quality of care in forensic psychiatry: A 3-year follow-up study. *Journal of Forensic Nursing*, 15(1), 60. <https://doi.org/10.1097/JFN.0000000000000226>

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

9. Benitez, G. B., Da Silveira, G. J. C., & Fogliatto, F. S. (2019). Layout Planning in Healthcare Facilities: A Systematic Review. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719855336>
10. Bubna, K., Hegde, S., & Rao, D. (2017). Role of colors in pediatric dental practices. *Journal of Clinical Pediatric Dentistry*, 41(3), 193–198. <https://doi.org/10.17796/1053-4628-41.3.193>
11. Dovjak, M., Shukuya, M., & Krainer, A. (2018). User-centred healing-oriented conditions in the design of hospital environments. *International Journal of Environmental Research and Public Health*, 15(10). <https://doi.org/10.3390/ijerph15102140>
12. Fernández-Rivera, C. M., Aceves-González, C., Zallio, M., & Mireles-Ramirez, M. (2020). Inclusive healthcare waiting rooms: A comparison study for Improving the User Experience Within Built Environment. In J. Charytonowicz & C. Falcão (Eds.), *Advances in Human Factors in Architecture, Sustainable Urban Planning and Infrastructure* (pp. 158–166). Retrieved from https://link.springer.com/chapter/10.1007/978-3-030-20151-7_15
13. Gharaveis, A., Yekita, H., & Shamloo, G. (2019). The perceptions of nurses about the behavioral needs for daylighting and view to the outside in inpatient facilities. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719851271>
14. Harper, C., Duke, T., Crosser, A., Avera, A., & Jefferies, S. (2020). Designing hospital wayfinding systems, touchscreen kiosks, environmental cues and mobile apps: An evaluation of a mobile wayfinding application. In N. J. Lightner & J. Kalra (Eds.), *Advances in Human Factors and Ergonomics in Healthcare and Medical Devices* (pp. 89–96). Washington, D.C.: Springer International Publishing.
15. Jellema, P., Annemans, M., & Heylighen, A. (2019). The roles of cancer care facilities in users' well-being. *Building Research & Information*, in press. <https://doi.org/10.1080/09613218.2019.1620094>
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17. Liddicoat, S. (2019). Designing a supportive emergency department environment for people with self harm and suicidal ideation: A scoping review. *Australasian Emergency Care*. <https://doi.org/10.1016/j.auec.2019.04.006>
18. Mason, D., Ingham, B., Urbanowicz, A., Michael, C., Birtles, H., Woodbury-Smith, M., ... Parr, J. R. (2019). A systematic review of what barriers and facilitators prevent and enable physical healthcare services access for autistic adults. *Journal of Autism and Developmental Disorders*. <https://doi.org/10.1007/s10803-019-04049-2>
19. Sadatsafavi, H., Walewski, J., & Shepley, M. M. (2015). The influence of facility design and human resource management on health care professionals. *Health Care Management Review*, 40(2), 126. <https://doi.org/10.1097/HMR.0000000000000012>
20. Shin, J., & Lee, J.-K. (2019). Indoor Walkability Index: BIM-enabled approach to Quantifying building circulation. *Automation in Construction*, 106, 102845. <https://doi.org/10.1016/j.autcon.2019.102845>
21. Uwajeh, P. C., Iyendo, T. O., & Polay, M. (2019). Therapeutic gardens as a design approach for optimising the healing environment of patients with Alzheimer's disease and other dementias: A narrative review. *EXPLORE*. <https://doi.org/10.1016/j.explore.2019.05.002>
22. Valipoor, S., Hakimjavadi, H., & De Portu, G. (2019). Design strategies to improve emergency departments' performance during mass casualty incidents: A survey of caregivers. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719851273>

Safety

Falls

23. Cournan, M., Fusco-Gessick, B., & Wright, L. (2018). Improving patient safety through video monitoring. *Rehabilitation Nursing*, 43(2), 111–115. <https://doi.org/10.1002/rnj.308>
24. Mackey, D. C., Lachance, C. C., Wang, P. T., Feldman, F., Laing, A. C., Leung, P. M., ... Robinovitch, S. N. (2019). The Flooring for Injury Prevention (FLIP) Study of compliant flooring for the prevention of fall-related injuries in long-term care: A randomized trial. *PLOS Medicine*, 16(6), e1002843. <https://doi.org/10.1371/journal.pmed.1002843>
25. Pati, D., Valipoor, S., Lorusso, L., Mihandoust, S., Jamshidi, S., Rane, A., & Kazem-Zadeh, M. (2019). The impact of the built environment on patient falls in hospital rooms: An integrative review. *Journal of Patient Safety*. <https://doi.org/10.1097/PTS.0000000000000613>
26. Sand-Jecklin, K., Johnson, J., Tringhesi, A., Daniels, C., & White, F. (2019). Video monitoring for fall prevention and patient safety: Process evaluation and improvement. *Journal of Nursing Care Quality*, 34(2), 145–150. <https://doi.org/10.1097/NCQ.0000000000000355>
27. Stoeckle, A., Iseler, J. I., Havey, R., & Aebersold, C. (2019). Catching quality before it falls: Preventing falls and injuries in the adult emergency department. *Journal of Emergency Nursing*, 45(3), 257–264. <https://doi.org/10.1016/j.jen.2018.08.001>



28. Quigley, P. A., Votruba, L., & Kaminski, J. (2019). Outcomes of patient-engaged video surveillance on falls and other adverse events. *Clinics in Geriatric Medicine*, 35(2), 253–263. <https://doi.org/10.1016/j.cger.2019.01.005>

Infection Prevention/Control

29. Boyle, M. A., Kearney, A., Carling, P., & Humphreys, H. (2019). 'Off the Rails': Hospital bed rail design, contamination, and the evaluation of their microbial ecology. *Journal of Hospital Infection*, in press. <https://doi.org/10.1016/j.jhin.2019.06.008>
30. Cole, K., & Talmadge, J. E. (2019). Mitigation of microbial contamination from waste water and aerosolization by sink design. *Journal of Hospital Infection*, in press. <https://doi.org/10.1016/j.jhin.2019.05.011>
31. Donskey, C. J. (2019). Beyond high-touch surfaces: Portable equipment and floors as potential sources of transmission of health care-associated pathogens. *American Journal of Infection Control*, 47, A90–A95.
32. Gestrich, S. A., Jencson, A. L., Cadnum, J. L., Livingston, S. H., Wilson, B. M., & Donskey, C. J. (2018). A multicenter investigation to characterize the risk for pathogen transmission from healthcare facility sinks. *Infection Control & Hospital Epidemiology*, 39(12), 1467–1469. <https://doi.org/10.1017/ice.2018.191>
33. Gola, M., Settimo, G., & Capolongo, S. (2019). Indoor air quality in inpatient environments: A systematic review on factors that influence chemical pollution in inpatient wards. *Journal of Healthcare Engineering*, 2019, 1–20. <https://doi.org/10.1155/2019/8358306>
34. Livingston, S., Cadnum, J. L., Gestrich, S., Jencson, A., & Donskey, C. J. (2018). Efficacy of automated disinfection with ozonated water in reducing sink drainage system colonization with *Pseudomonas* species and *Candida auris*. *Infection Control & Hospital Epidemiology*, 39(12), 1497–1498. <https://doi.org/10.1017/ice.2018.176>
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37. Wagner, J. A., Greeley, D. G., Gormley, T. C., & Markel, T. A. (2019). Analyzing ICU patient room environmental quality through unoccupied, normal, and emergency procedure modes: An EQI evaluation. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719854218>

Medication Safety

38. Kaboodmehri, R., Hasavari, F., Adib, M., Khaleghdoost Mohammadi, T., & Kazemnejhad Leili, E. (2019). Environmental factors contributing to medication errors in intensive care units. *Journal of Holistic Nursing and Midwifery*, 57–64. <https://doi.org/10.32598/JHNM.29.2.57>



Care across the Lifespan

Pediatric

39. Lordier, L., Meskaldji, D.-E., Grouiller, F., Pittet, M. P., Vollenweider, A., Vasung, L., ... Hüppi, P. (2019). Music in premature infants enhances high-level cognitive brain networks. *Proceedings of the National Academy of Sciences*, in press. <https://doi.org/10.1073/pnas.1817536116>
40. O'Callaghan, N., Dee, A., & Philip, R. K. (2019). Evidence-based design for neonatal units: A systematic review. *Maternal Health, Neonatology and Perinatology*, 5(1), 1–9. <https://doi.org/10.1186/s40748-019-0101-0>

Labor & Delivery

41. Plough, A., Polzin-Rosenberg, D., Galvin, G., Shao, A., Sullivan, B., Henrich, N., & Shah, N. T. (2019). An exploratory study of the relationship between facility design and the provision of childbirth care. *Journal of Midwifery & Women's Health*, 64(1), 12–17. <https://doi.org/10.1111/jmwh.12920>
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Elders/Aging

43. Lowndes, R., Daly, T., & Armstrong, P. (2018). "Leisurely Dining": Exploring how work organization, informal care, and dining spaces shape residents' experiences of eating in long-term residential care. *Qualitative Health Research*, 28(1), 126–144. <https://doi.org/10.1177/1049732317737979>
44. van den Berg, M. E. L., Winsall, M., Dyer, S. M., Breen, F., Gresham, M., & Crotty, M. (2019). Understanding the barriers and enablers to using outdoor spaces in nursing homes: A systematic review. *The Gerontologist*, in press. <https://doi.org/10.1093/geront/gnz055>

Cognitive Impairment & Dementia

45. Brown Wilson, C., Arendt, L., Nguyen, M., Scott, T. L., Neville, C. C., & Pachana, N. A. (2019). Nonpharmacological Interventions for Anxiety and Dementia in Nursing Homes: A Systematic Review. *The Gerontologist*, in press. <https://doi.org/10.1093/geront/gnz020>
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47. Motealleh, P., Moyle, W., Jones, C., & Dupre, K. (2019). Creating a dementia-friendly environment through the use of outdoor natural landscape design intervention in long-term care facilities: A narrative review. *Health & Place*, 58, in press. <https://doi.org/10.1016/j.healthplace.2019.102148>



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49. Xidou, D., Grey, T., Kennelly, S. P., McHale, C., & O'Neill, D. (2019). Dementia friendly hospital design: Key issues for patients and accompanying persons in an Irish acute care public hospital. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719845120>

Building Systems and Technology

50. Eisazadeh, N., Allacker, K., & De Troyer, F. (2019). Window design strategies for environmentally friendly and energy efficient patient rooms: A case study in the Belgian context. *IOP Conference Series: Earth and Environmental Science*, 290, 1–9. <https://doi.org/10.1088/1755-1315/290/1/012074>
51. Mousavi, E. S. (2019). Toward an energy efficient healthcare environment: A case study of hospital corridor design. *International Journal of Environmental Science and Technology*, in press. <https://doi.org/10.1007/s13762-019-02386-4>

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

52. Clark, T., & Sine, D. (2019). Safer health care environments by design. *Journal of Healthcare Risk Management*, in press. <https://doi.org/10.1002/jhrm.21364>
53. Dubé, M., Shultz, J., Barnes, S., Pascal, B., & Kaba, A. (2019). Goals, recommendations, and the how-to strategies for developing and facilitating patient safety and system integration simulations. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719846586>
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57. Shultz, J., Borkenhagen, D., Rose, E., Gribbons, B., Rusak-Gillrie, H., Fleck, S., ... Filer, J. (2019). Simulation-based mock-up evaluation of a universal operating room. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586719855777>



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61. Zhong, S., Clark, M., Hou, X.-Y., Zang, Y., & FitzGerald, G. (2015). Development of key indicators of hospital resilience: a modified Delphi study. *Journal of Health Services Research & Policy*, 20(2), 74–82. <https://doi.org/10.1177/1355819614561537>

Other

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