



# 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



Additional key point summaries provided by



RESEARCH-DESIGN  
CONNECTIONS

## Knowledge Repository News

Among the 37 new entries in the Knowledge Repository, several papers focus on designing for care across the lifespan, and specifically, design for persons with dementia. Anderson and colleagues conducted an extensive literature review on a topic of ongoing debate in the approach to design for dementia: design interventions at exit doors. Another literature review on a related topic by Wang and colleagues focuses on wandering among people with dementia and how design can support safe walking. And a study by De Pessemier and colleagues tests the impact of a soundscape system for people with dementia living in nursing homes. These can be found in the "Care across the Lifespan: Elders/Aging" category below.

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

### September - October 2022

#### Experience

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

1. DeMicco, F. J., Tschirky, P. P., Jeffrey, M., Li, M., & Shepley, M. M. (2022). Strategic medical tourism design: A case of Switzerland, hospitality bridging healthcare (H2H©). In *Medical Travel Brand Management*. Apple Academic Press.
2. Jafarifiroozabadi, R., Woo, M., Joseph, A., MacNaughton, P., & Mihandoust, S. (2022). The effects of window blind positions and control on patients' hospital and care quality perception: A mediation and moderation analysis. *Building and Environment*, in press. <https://doi.org/10.1016/j.buildenv.2022.109672>
3. Matic, Z., Sala, M. F. W., Tonetto, L. M., Campiglia, G. C., Morgan, J., DuBose, J. R., Zimring, C. M., & Kraft, C. S. (2022). Understanding experience of patients with highly infectious diseases during extended isolation: A design perspective. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221128916>

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

4. Deng, L., & Romainoor, N. H. (2022). A bibliometric analysis of published literature on healthcare facilities' wayfinding research from 1974 to 2020. *Heliyon*, 8(9), e10723. <https://doi.org/10.1016/j.heliyon.2022.e10723>
5. Groves, H., Kushner, A. L., & Gupta, S. (2022). Protecting health facilities: Design options for armed conflict and climate change disasters. *Emergency and Critical Care Medicine*, in press. <https://doi.org/10.1097/EC9.0000000000000051>



6. Guo, W., & He, Y. (2022). Optimized wayfinding signage positioning in hospital built environment through medical data and flows simulations. *Buildings*, 12(9), Article 9. <https://doi.org/10.3390/buildings12091426>
7. Hussein, A. (2022). Taking advantage of single patient rooms as a major support for the healing environment system in Egyptian hospitals. *Journal of Engineering Research*, 6(4), 1–5. <https://doi.org/10.21608/erjeng.2022.265202>
8. Litleskare, S., & Calogiuri, G. (2022). Seasonal variations in the effectiveness of immersive virtual nature. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221127420>
9. Narayanan, A., Pearson, L., Fisher, J. P., & Khashram, M. (2022). The effect of background music on stress in the operating surgeon: Scoping review. *BJS Open*, 6(5). <https://doi.org/10.1093/bjsopen/zrac112>
10. Sadek, A. H., & Willis, J. (2022). Forms of environmental support: The roles that contemporary outpatient oncology settings play in shaping patient experience. *Building Research & Information*, in press. <https://doi.org/10.1080/09613218.2022.2124945>
11. Tekin, B. H., Corcoran, R., & Gutiérrez, R. U. (2022). A systematic review and conceptual framework of biophilic design parameters in clinical environments. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221118675>

## Safety

### Falls

12. Hussain, F., Dijk, M. V., Oudshoorn, C., & Ista, E. (2022). Falls incidence compared between a multibedded ward hospital and a 100% single-occupancy room hospital: An uncontrolled before-after study. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221123607>

### Infection Prevention/Control

13. Chi, X., Meng, X., Xiong, L., Chen, T., Zhou, Y., Ji, J., Zheng, B., & Xiao, Y. (2022). Small wards in the ICU: A favorable measure for controlling the transmission of carbapenem-resistant *Klebsiella pneumoniae*. *Intensive Care Medicine*, 48(11), 1573–1581. <https://doi.org/10.1007/s00134-022-06881-0>
14. Cho, J., Kim, J., & Kim, Y. (2022). Development of a non-contact mobile screening center for infectious diseases: Effects of ventilation improvement on aerosol transmission prevention. *Sustainable Cities and Society*, 87. <https://doi.org/10.1016/j.scs.2022.104232>
15. Cunningham, B., O'Neill, V., Devereux, M., McGann, D., & O'Hora, J. (2022). Use of a door handle disinfection system to reduce the risks associated with microbial loads on fomites in a healthcare setting. *Journal of Hospital Infection*, in press. <https://doi.org/10.1016/j.jhin.2022.09.003>
16. Ding, C., Bai, Y., Fang, Y., Huang, F., & Arashpour, M. (2022). A focused review of modular construction for medical and quarantine facilities. *Journal of Architectural Engineering*, 28(4). [https://doi.org/10.1061/\(ASCE\)AE.1943-5568.0000565](https://doi.org/10.1061/(ASCE)AE.1943-5568.0000565)



## COVID-19 Response

17. Hurraß, J., Golmohammadi, R., Bujok, S., Bork, M., Thelen, F., Wagner, P., Exner, D., Schönfeld, C., Hornei, B., Kampf, G., & Exner, M. (2022). Explosive COVID-19 outbreak in a German nursing home and the possible role of the air ventilation system. *Journal of Hospital Infection*, *130*, 34–43.  
<https://doi.org/10.1016/j.jhin.2022.09.013>
18. Khotbehsara, E. M., Askarizad, R., Mehrinejad, M., Nasab, S. N., & Somasundaraswaran, K. (2022). The impact of COVID-19 on visitors' wayfinding within healthcare centers. *Ain Shams Engineering Journal*, in press.  
<https://doi.org/10.1016/j.asej.2022.101957>
19. Marmo, R., Pascale, F., Diana, L., Sicignano, E., & Polverino, F. (2022). Lessons learnt for enhancing hospital resilience to pandemics: A qualitative analysis from Italy. *International Journal of Disaster Risk Reduction*, *81*, 103265.  
<https://doi.org/10.1016/j.ijdrr.2022.103265>
20. Pan, W., & Zhang, Z. (2022). Evaluating modular healthcare facilities for COVID-19 emergency response—A case of Hong Kong. *Buildings*, *12*(9), 1430.  
<https://doi.org/10.3390/buildings12091430>

## Care across the Lifespan

### Pediatric

21. Halim Babbu, A., & Haque, M. (2022). A framework for the design of pediatric healthcare environment using the Delphi technique. *Ain Shams Engineering Journal*, in press. <https://doi.org/10.1016/j.asej.2022.101975>

### Labor & Delivery

22. Goldkuhl, L., Gyllensten, H., Begley, C., Nilsson, C., Wijk, H., Lindahl, G., Uvnäs-Moberg, K., & Berg, M. (2022). Impact of Birthing Room Design on Maternal Childbirth Experience: Results from the Room4Birth Randomized Trial. *HERD: Health Environments Research & Design Journal*, in press.  
<https://doi.org/10.1177/19375867221124232>

### Elders/Aging

#### *Cognitive Impairment & Dementia*

23. Anderson, D. C., Kota, S. S., Yeh, L., & Budson, A. E. (2022). Built environment design interventions at the exits of secured dementia care units: A review of the empirical literature. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221125930>
24. De Pessemier, T., Vanhecke, K., Thomas, P., Vander Mynsbrugge, T., Vercoutere, S., Van de Velde, D., De Vriendt, P., Joseph, W., Martens, L., Botteldooren, D., & Devos, P. (2022). Personalising augmented soundscapes for supporting persons with dementia. *Multimedia Tools and Applications*, in press.  
<https://doi.org/10.1007/s11042-022-13839-3>



25. Wang, J., Zhang, G., Min, M., Xing, Y., Chen, H., Li, C., Li, C., Zhou, H., & Li, X. (2022). Developing a non-pharmacological intervention programme for wandering in people with dementia: Recommendations for healthcare providers in nursing homes. *Brain Sciences*, *12*(10), Article 10. <https://doi.org/10.3390/brainsci12101321>

*Aging in Place/Healthcare at Home*

26. Jung, S., Uttley, L., & Huang, J. (2022). Housing with care for older people: A scoping review using the CASP assessment tool to inform optimal design. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221113359>

### Building Systems & Technology

27. Amato, C., Yang, C., Bernhard, L., Giulianotti, P. C., Kondrat, P., Ratib, O., & Wilhelm, D. (2022). Towards the OR of the future: Introducing an adaptive and technology-embracing OR wing layout. *International Journal of Computer Assisted Radiology and Surgery*, in press. <https://doi.org/10.1007/s11548-022-02760-7>
28. Ismael, Z. K., & Khalil, K. F. (2022). Space performance assessment of a relocatable health facility: Mosul Hospital as a case study. *Buildings*, *12*(10). <https://doi.org/10.3390/buildings12101539>

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

29. Boissonneault, A., & Peters, T. (2022). Concepts of performance in post-occupancy evaluation post-probe: A literature review. *Building Research & Information*, in press. <https://doi.org/10.1080/09613218.2022.2132906>
30. Deng, L., Romainoor, N. H., & Jianxing, W. (2022). Research on evaluation method of wayfinding signs in medical institutions based on mobile network intelligent navigation. *Scientific Programming*, 2022. <https://doi.org/10.1155/2022/1089406>
31. Fahsold, A., Brennan, S., Doan, T., Sun, J., Palm, R., Verbeek, H., & Holle, B. (2022). Adapting the Australian Environmental Assessment Tool—High Care (EAT-HC): Experiences and Practical Implications From Germany, Japan, and Singapore. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221122936>
32. Halim Babbu, A., & Haque, M. (2022). A framework for the design of pediatric healthcare environment using the Delphi technique. *Ain Shams Engineering Journal*. <https://doi.org/10.1016/j.asej.2022.101975>
33. Kpamma, Z. E., Agyefi-Mensah, S., & Sadick, A.-M. (2022). Stakeholder experiential knowledge as evidence in redesigning health-care facilities for improved usability. *Facilities*, in press. <https://doi.org/10.1108/F-06-2022-0077>
34. Lu, Z., & Pesarakli, H. (2022). Seeing Is believing: Using eye-tracking devices in environmental research. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221130806>



35. Mohagheghi, S., Gharipour, M., DeClercq, C., Bui, A., & Tyne, I. A. (2022). Identifying optimal locations for potential temporary community clinics during public health emergencies. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/19375867221124234>
36. Mosca, E. I., White, J., Steinfeld, E., & Capolongo, S. (2022). Designing hospitals through the lens of universal design. An evaluation tool to enhance inclusive healthcare facilities. In I. Garofolo, G. Bencini, & A. Arengi (Eds.), *Studies in Health Technology and Informatics*. IOS Press. <https://doi.org/10.3233/SHTI220857>
37. Rastegar, R. M., Saghafi Moghaddam, S., Haghazadeh, R., & Zimring, C. (2022). From evidence to assessment: Developing a scenario-based computational design algorithm to support informed decision-making in primary care clinic design workflow. *International Journal of Architectural Computing*, in press. <https://doi.org/10.1177/14780771221121031>