



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 68 new entries in the Knowledge Repository, several papers focus on the link between the built environment and infection prevention/control, and specifically, COVID-19. Research in this area is being accelerated to help healthcare organizations stay up to date on the latest discoveries to combat the disease, but keep in mind, this means many of the papers have not yet been peer-reviewed. Nearly all of the papers related to COVID-19 are open-access, and you can read the full articles by clicking on the “doi” links included in the citations below.

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

March - April 2020

COVID-19

1. Agarwal, A., Nagi, N., Chatterjee, P., Sarkar, S., Mourya, D., Sahay, R. R., & Bhatia, R. (2020). Guidance for building a dedicated health facility to contain the spread of the 2019 novel coronavirus outbreak. *Indian Journal of Medical Research*, in press. https://doi.org/10.4103/ijmr.IJMR_518_20
2. Brown, N., Buse, C., Lewis, A., Martin, D., & Nettleton, S. (2020). Air Care: An ‘aerography’ of breath, buildings and bugs in the cystic fibrosis clinic. *Sociology of Health and Illness*. <http://eprints.whiterose.ac.uk/158985/>
3. Buck, B. H., Cowan, L., Smith, L., Duncan, E., Bazemore, J., & Schwind, J. S. (2020). Effective practices and recommendations for drive-through clinic points of dispensing: A systematic review. *Disaster Medicine and Public Health Preparedness*, in press. <https://doi.org/10.1017/dmp.2020.15>
4. Cai, Y., Huang, T., Liu, X., & Xu, G. (2020). The Effects of “Fangcang, Huoshenshan, and Leishenshan” Makeshift Hospitals and Temperature on the Mortality of COVID-19. *MedRxiv*, in press. <https://doi.org/10.1101/2020.02.26.20028472>
5. Chen, S., Zhang, Z., Yang, J., Wang, J., Zhai, X., Bärnighausen, T., & Wang, C. (2020). Fangcang shelter hospitals: A novel concept for responding to public health emergencies. *The Lancet*, in press. [https://doi.org/10.1016/S0140-6736\(20\)30744-3](https://doi.org/10.1016/S0140-6736(20)30744-3)
6. Chen, W., Su, X.-Y., Wang, V. J., Wang, E. C., Xu, R., Zhong, S., Sun, G., & Xia, J. (2020). Novel Coronavirus International Public Health Emergency: Guidance on Radiation Oncology Facility Operation. *Advances in Radiation Oncology*, in press. <https://doi.org/10.1016/j.adro.2020.03.008>



7. Chen, X., Tian, J., Li, G., & Li, G. (2020). Initiation of a new infection control system for the COVID-19 outbreak. *The Lancet Infectious Diseases*, 20(4), 397–398. [https://doi.org/10.1016/S1473-3099\(20\)30110-9](https://doi.org/10.1016/S1473-3099(20)30110-9)
8. Dietz, L., Horve, P. F., Coil, D., Fretz, M., & Wymelenberg, K. V. D. (2020). 2019 novel Coronavirus (COVID-19) outbreak: A review of the current literature and built environment (BE) considerations to reduce transmission. *PrePrints*, in press. <https://doi.org/10.20944/preprints202003.0197.v1>
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10. Guo, Z.-D., Wang, Z.-Y., Zhang, S.-F., Li, X., Li, L., Li, C., Cui, Y., Fu, R.-B., Dong, Y.-Z., Chi, X.-Y., Zhang, M.-Y., Liu, K., Cao, C., Liu, B., Zhang, K., Gao, Y.-W., Lu, B., & Chen, W. (2020). Aerosol and Surface Distribution of Severe Acute Respiratory Syndrome Coronavirus 2 in Hospital Wards, Wuhan, China, 2020. *Emerging Infectious Disease Journal*, 26(7), in press. <https://doi.org/10.3201/eid2607.200885>
11. Huang, T., Guo, Y., Li, S., Zheng, Y., Lei, L., Zeng, X., Zhong, Q., Liu, Y., & Liu, L. (2020). Application and effects of fever screening system in the prevention of nosocomial infection in the only designated hospital of coronavirus disease 2019 (COVID-19) in Shenzhen, China. *Infection Control & Hospital Epidemiology*, in press. <https://doi.org/10.1017/ice.2020.119>
12. Ierardi, A. M., Wood, B. J., Gaudino, C., Angileri, S. A., Jones, E. C., Hausegger, K., & Carrafiello, G. (2020). How to Handle a COVID-19 Patient in the Angiographic Suite. *CardioVascular and Interventional Radiology*, in press. <https://doi.org/10.1007/s00270-020-02476-8>
13. Iseron, K. V. (2020). Alternative Care Sites: An Option in Disasters. *Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health*, in press. <https://doi.org/10.5811/westjem.2020.4.47552>
14. Kwon, K. T., Ko, J.-H., Shin, H., Sung, M., & Kim, J. Y. (2020). Drive-Through Screening Center for COVID-19: A Safe and Efficient Screening System against Massive Community Outbreak. *Journal of Korean Medical Science*, 35(11), e123. <https://doi.org/10.3346/jkms.2020.35.e123>
15. Liu, Y., Ning, Z., Chen, Y., Guo, M., Liu, Y., Gali, N. K., Sun, L., Duan, Y., Cai, J., Westerdahl, D., Liu, X., Xu, K., Ho, K.-F., Kan, H., Fu, Q., & Lan, K. (2020). Aerodynamic analysis of SARS-CoV-2 in two Wuhan hospitals. *Nature*. <https://doi.org/10.1038/s41586-020-2271-3>
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18. Otter, J. A., Donskey, C., Yezli, S., Douthwaite, S., Goldenberg, S. D., & Weber, D. J. (2016). Transmission of SARS and MERS coronaviruses and influenza virus in healthcare settings: The possible role of dry surface contamination. *Journal of Hospital Infection*, 92(3), 235–250. <https://doi.org/10.1016/j.jhin.2015.08.027>
19. Santarpia, J. L., Rivera, D. N., Herrera, V., Morwitzer, M. J., Creager, H., Santarpia, G. W., Crown, K. K., Brett-Major, D., Schnaubelt, E., Broadhurst, M. J., Lawler, J. V., Reid, S. P., & Lowe, J. J. (2020). Transmission Potential of SARS-CoV-2 in Viral Shedding Observed at the University of Nebraska Medical Center. *MedRxiv*, in press. <https://doi.org/10.1101/2020.03.23.20039446>
20. Seda, G., & Parrish, J. S. (2019). Augmenting Critical Care Capacity in a Disaster. *Critical Care Clinics*, 35(4), 563–573. <https://doi.org/10.1016/j.ccc.2019.06.007>
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23. Wang, J., & Du, G. (2020). COVID-19 may transmit through aerosol. *Irish Journal of Medical Science*, in press. <https://doi.org/10.1007/s11845-020-02218-2>
24. Wax, R. S. (2019). Preparing the intensive care unit for disaster. *Critical Care Clinics*, 35(4), 551–562. <https://doi.org/10.1016/j.ccc.2019.06.008>
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31. Zhao, D., Zhang, C., & Chen, J. (2020). Infection Control in the Medical Imaging Department During the COVID-19 Pandemic. *Journal of Medical Imaging and Radiation Sciences*. <https://doi.org/10.1016/j.jmir.2020.03.005>

Experience

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

32. Hajradinovic, Y., Tishelman, C., Lindqvist, O., & Goliath, I. (2018). Family members' experiences of the end-of-life care environments in acute care settings – a photo-elicitation study. *International Journal of Qualitative Studies on Health and Well-Being*, 13(1). <https://doi.org/10.1080/17482631.2018.1511767>
33. Hasegawa, Y., Ryherd, E., Ryan, C. S., & Darcy-Mahoney, A. (2020). Examining the utility of perceptual noise categorization in pediatric and neonatal hospital units. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586720911216>
34. Sawyer, L. K., Kemp, S., James, P. A. B., & Harper, M. (2020). Noisy and Restless: 24 hours in an NHS community hospital ward, a qualitative and quantitative Analysis of the patient environment. *Building and Environment*, in press. <https://doi.org/10.1016/j.buildenv.2020.106795>

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

35. Bingham, E., Whitaker, D., Christofferson, J., & Weidman, J. (2020). Evidence-based design in hospital renovation projects: A study of design implementation for user controls. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586720905021>
36. Colley, J., & Zeeman, H. (2020). Safe and supportive neurorehabilitation environments: Results of a structured observation of physical features across two rehabilitation facilities. *HERD: Health Environments Research & Design Journal*. <https://doi.org/10.1177/1937586720912546>
37. Di Sivo, M., & Balducci, C. (2020). Quality in healthcare: The new frontier of “Patient-Centered Care Approach” in day clinics. *Journal of Civil Engineering and Architecture*, 14, 160–167.
38. Eijkelenboom, A. M., Kim, D. H., & Bluysen, P. M. (2020). First results of self-reported health and comfort of staff in outpatient areas of hospitals in the Netherlands. *Building and Environment*, 177, 106871. <https://doi.org/10.1016/j.buildenv.2020.106871>



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Safety

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Infection Prevention/Control

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Medication Safety

57. Odberg, K. R., Hansen, B. S., Aase, K., & Wangensteen, S. (2020). A work system analysis of the medication administration process in a Norwegian nursing home ward. *Applied Ergonomics*, 86, in press. <https://doi.org/10.1016/j.apergo.2020.103100>

Care across the Lifespan

Elders/Aging

58. Xie, H., Zhong, B., & Liu, C. (2020). Sound environment quality in nursing units in Chinese nursing homes: A pilot study. *Building Acoustics*, in press. <https://doi.org/10.1177/1351010X20914237>

Cognitive Impairment & Dementia

59. Houben, M., Brankaert, R., Bakker, S., Kenning, G., Bongers, I., & Eggen, B. (2020). The role of everyday sounds in advanced dementia care. *Proceedings of the 2020 ACM Conference on Human Factors in Computing Systems - (CHI '20)*, 450. <https://doi.org/10.1145/3313831.3376577>



60. Li, J., & Zeisel, J. (2019). Autonomy-supportive environments for people living with Dementia: A case study of two Dementia residences. *Proceedings of the Environmental Design Research Association 50th Conference. EDRA, Brooklyn, NY*. <https://cuny.manifoldapp.org/read/autonomy-supportive-environments/section/f4285bc8-5c54-45b6-9322-4b80661e7d89>

Building Systems & Technology

61. Cacabelos-Reyes, A., López-González, J. L., González-Gil, A., Febrero-Garrido, L., Eguía-Oller, P., & Granada-Álvarez, E. (2020). Assessing the energy demand reduction in a surgical suite by optimizing the HVAC operation during off-use periods. *Applied Sciences*, *10*(7), 2233. <https://doi.org/10.3390/app10072233>
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64. Sun, K., Specian, M., & Hong, T. (2020). Nexus of thermal resilience and energy efficiency in buildings: A case study of a nursing home. *Building and Environment*, in press. <https://doi.org/10.1016/j.buildenv.2020.106842>

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

65. Frechette, J., Bitzas, V., Kilpatrick, K., Aubry, M., & Lavoie-Tremblay, M. (2020). A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: Lessons learned for managers. *Journal of Nursing Management*. <https://doi.org/10.1111/jonm.13012>
66. Lather, J. I., Logan, T., Renner, K., & Messner, J. I. (2020). Implementation and evaluation of generative layout options using the graph theoretical approach for a hospital layout problem. *Journal of Computing in Civil Engineering*, *34*(4). [https://doi.org/10.1061/\(ASCE\)CP.1943-5487.0000893](https://doi.org/10.1061/(ASCE)CP.1943-5487.0000893)
67. Pati, D. (2020). Improving precision and confidence of research application through mediator and moderator models. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586720911382>
68. Taaffe, K., Joseph, A., Khoshkenar, A., Machry, H., Allison, D., Reeves, S. T., & Group, R. O. S. (2020). Proactive evaluation of an operating room prototype: A simulation-based modeling approach. *Journal of Patient Safety*, Publish Ahead of Print, in press. <https://doi.org/10.1097/PTS.0000000000000693>