



RESEARCH IN A SNAP

OVERVIEW

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

Knowledge Repository News

With holidays abounding, the last two months of 2016 found the Knowledge Repository growing by 32 citations. As usual, some of these are still "in press" and will be updated as volume and page information becomes available. Some offer insight into specific niche areas, such as the use of hinged or sliding glass doors in isolation rooms (Kalliomäki, et al, 2016). In this new study, the authors suggest that sliding doors are preferred in these locations due to the door-opening motion itself generating relatively smaller air volume exchange across the door opening. This is consistent with results from an earlier similar study (Tang et al., 2013) where the authors investigated four door types: variable speed single and double, sliding and hinged doors, in combination with moving people.

November-December 2016

Safety

1. Crane, B., Goodworth, A., Liquori, M., Ghosh, S., Certo, C., & McCafferty, L. (2016). Multidisciplinary Testing of Floor Pads on Stability, Energy Absorption, and Ease of Hospital Use for Enhanced Patient Safety: *Journal of Patient Safety*, 12(3), 132–139. <https://doi.org/10.1097/PTS.0000000000000079>
2. Davis, M., Hignett, S., Hillier, S., Hames, N., & Hodder, S. (2016). Safer anaesthetic rooms: Human factors/ ergonomics analysis of work practices. *Journal of Perioperative Practice*, 26(12), 274–280.
3. Huckels-Baumgart, S., Baumgart, A., Buschmann, U., Schüpfer, G., & Manser, T. (2016). Separate Medication Preparation Rooms Reduce Interruptions and Medication Errors in the Hospital Setting: A Prospective Observational Study. *Journal of Patient Safety*, in press.
4. Kalliomäki, P., Saarinen, P., Tang, J. W., & Koskela, H. (2016). Airflow patterns through single hinged and sliding doors in hospital isolation rooms – Effect of ventilation, flow differential and passage. *Building and Environment*, 107, 154–168. <https://doi.org/10.1016/j.buildenv.2016.07.009>
5. King, M.-F., Noakes, C. J., & Sleight, P. A. (2015). Modeling environmental contamination in hospital single- and four-bed rooms. *Indoor Air*, 25(6), 694–707. <https://doi.org/10.1111/ina.12186>
6. Mousavi, E. S., & Grosskopf, K. R. (2016). Secondary exposure risks to patients in an airborne isolation room: Implications for anteroom design. *Building and Environment*, 104, 131–137. <https://doi.org/10.1016/j.buildenv.2016.05.010>

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Additional key point summaries provided by:



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connections



7. Risør, B. W., Casper, S. D., Andersen, L., & Sørensen, J. (2017). A multi-component patient-handling intervention improves attitudes and behaviors for safe patient handling and reduces aggression experienced by nursing staff: A controlled before-after study. *Applied Ergonomics*, 60, 74–82. <https://doi.org/10.1016/j.apergo.2016.10.011>
8. Stiller, A., Salm, F., Bischoff, P., & Gastmeier, P. (2016). Relationship between hospital ward design and healthcare-associated infection rates: a systematic review and meta-analysis. *Antimicrobial Resistance & Infection Control*, 5(1), 1–10. <https://doi.org/10.1186/s13756-016-0152-1>
9. Tang, J. W., Nicolle, A., Pantelic, J., Klettner, C. A., Su, R., Kalliomaki, P., ... Tham, K. W. (2013). Different Types of Door-Opening Motions as Contributing Factors to Containment Failures in Hospital Isolation Rooms. *PLoS ONE*, 8(6), e66663. <https://doi.org/10.1371/journal.pone.0066663>
10. Vergeire-Dalmacion, G. R., Itable, J. R., & Baja, E. S. (2016). Hospital-acquired infection in public hospital buildings in the Philippines: Is the type of ventilation increasing the risk? *The Journal of Infection in Developing Countries*, 10(11), 1236-1242. <https://doi.org/10.3855/jidc.8295>
11. Wong, V., Staniforth, K., & Boswell, T. C. (2011). Environmental contamination and airborne microbial counts: a role for hydroxyl radical disinfection units? *The Journal of Hospital Infection*, 78(3), 194–199. <https://doi.org/10.1016/j.jhin.2011.03.003>

Quality of Care

12. DuBose, J. R., & Hadi, K. (2016). Improving inpatient environments to support patient sleep. *International Journal for Quality in Health Care*. <https://doi.org/10.1093/intqhc/mzw079>
13. Jiang, S., Powers, M., Allison, D., & Vincent, E. (2016). Informing Healthcare Waiting Area Design Using Transparency Attributes: A Comparative Preference Study. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716675581>

Ageing

14. Fleming, R., Bennett, K., Preece, T., & Phillipson, L. (2016). The development and testing of the dementia friendly communities environment assessment tool (DFC EAT). *International Psychogeriatrics*, in press, 1–9. <https://doi.org/10.1017/S1041610216001678>
15. Motzek, T., Bueter, K., & Marquardt, G. (2016). Investigation of Eligible Picture Categories for Use as Environmental Cues in Dementia-Sensitive Environments. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716679403>
16. Nordin, S., McKee, K., Wallinder, M., von Koch, L., Wijk, H., & Elf, M. (2016). The physical environment, activity and interaction in residential care facilities for older people: a comparative case study. *Scandinavian Journal of Caring Sciences*, in press. <https://doi.org/10.1111/scs.12391>



17. Parke, B., Boltz, M., Hunter, K. F., Chambers, T., Wolf-Ostermann, K., Adi, M. N., ... Gutman, G. (2016). A Scoping Literature Review of Dementia-Friendly Hospital Design. *The Gerontologist*. <https://doi.org/10.1093/geront/gnw128>
18. Zandieh, R., Martinez, J., Flacke, J., Jones, P., & van Maarseveen, M. (2016). Older Adults' Outdoor Walking: Inequalities in Neighbourhood Safety, Pedestrian Infrastructure and Aesthetics. *International Journal of Environmental Research and Public Health*, 13(12), 1–24. <https://doi.org/10.3390/ijerph13121179>

Light and Sound

19. Alzubaidi, S., & Soori, P. K. (2012). Energy Efficient Lighting System Design for Hospitals Diagnostic and Treatment Room—A Case Study. *Journal of Light & Visual Environment*, 36(1), 23–31. <https://doi.org/10.2150/jlve.36.23>
20. Hu, R.-F., Hegadoren, K. M., Wang, X.-Y., & Jiang, X.-Y. (2016). An investigation of light and sound levels on intensive care units in China. *Australian Critical Care*, 29(2), 62–67. <https://doi.org/10.1016/j.aucc.2015.08.001>
21. Simons, K. S., Laheij, R. J. F., van den Boogaard, M., Moviat, M. A. M., Paling, A. J., Polderman, F. N., ... de Jager, C. P. C. (2016). Dynamic light application therapy to reduce the incidence and duration of delirium in intensive-care patients: a randomised controlled trial. *The Lancet Respiratory Medicine*, 4(3), 194–202. [https://doi.org/10.1016/S2213-2600\(16\)00025-4](https://doi.org/10.1016/S2213-2600(16)00025-4)
22. Sklavoua, E., & Tzouvadakis, I. (2016). Customizing sustainable evidence based design: A daylight study in south semi-private patient rooms. *Journal of Buildings and Sustainability*, 1(2), 1–18.
23. Stevens, D. C., Khan, M. A., Munson, D. P., Reid, E. J., Helseth, C. C., & Buggy, J. (2007). The impact of architectural design upon the environmental sound and light exposure of neonates who require intensive care: An evaluation of the Boekelheide Neonatal Intensive Care Nursery. *Journal of Perinatology*, 27, S20–S28. <https://doi.org/10.1038/sj.jp.7211838>

NICU Design

24. Mann, D. (2016). Design, Implementation, and Early Outcome Indicators of a New Family-Integrated Neonatal Unit. *Nursing for Women's Health*, 20(2), 158–166. <https://doi.org/10.1016/j.nwh.2016.01.007>
25. Stevens, D. C., Helseth, C. C., Khan, M. A., Munson, D. P., & Smith, T. J. (2010). Neonatal intensive care nursery staff perceive enhanced workplace quality with the single-family room design. *Journal of Perinatology*, 30(5), 352–358.
26. Stevens, D. C., Munson, D. P., & Khan, M. A. (2016). The Single-Family Room Neonatal Intensive Care Environment. *NeoReviews*, 17(12), e687–e696. <https://doi.org/10.1542/neo.17-12-e687>.
27. White, R. D. (2010). Single-Family Room Design in the Neonatal Intensive Care Unit—Challenges and Opportunities. *Newborn and Infant Nursing Reviews*, 10(2), 83–86. <https://doi.org/10.1053/j.nainr.2010.03.011>



Other

28. Ghamari, H., & Amor, C. (2016). The Role of Color in Healthcare Environments, Emergent Bodies of Evidence-based Design Approach. *Sociology and Anthropology*, 4(11), 1020–1029. <https://doi.org/10.13189/sa.2016.041109>
29. Cotto, S. V., & Lee, W. J. (2016). Challenges and opportunities: Microgrid modular design for tribal healthcare facilities. In 2016 North American Power Symposium (NAPS) (pp. 1–6). Denver, CO: IEEE Xplore. <https://doi.org/10.1109/NAPS.2016.7747839>
30. Mercereau, P., Lee, B., Head, S. J., & Schwarz, S. K. W. (2012). A regional anesthesia-based “swing” operating room model reduces non-operative time in a mixed orthopedic inpatient/outpatient population. *Canadian Journal of Anaesthesia = Journal Canadien D’anesthesie*, 59(10), 943–949. <https://doi.org/10.1007/s12630-012-9765-x>
31. O’Reilly, K., Ruokis, S., Russell, K., Teves, T., DiLibero, J., Yassa, D., ... Howell, M. D. (2016). Standard work for room entry: Linking lean, hand hygiene, and patient-centeredness. *Healthcare (Amsterdam, Netherlands)*, 4(1), 45–51. <https://doi.org/10.1016/j.hjdsi.2015.12.008>
32. Peters, T., & Verderber, S. (2016). Territories of Engagement in the Design of Ecohumanist Healthcare Environments. *HERD: Health Environments Research & Design Journal*, in press. <https://doi.org/10.1177/1937586716668635>