

**CRITICAL COMMENTARY**

# Hospital Architectural Design and Physical Privacy: An Exploration of Shortcomings

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Physical privacy within the walls of hospitals is far from guaranteed. This can be seen in the architectural design of hospitals, where large ward rooms filled with multiple patients are the norm. Quiet spaces to discuss important matters with the health care team are at a premium. Waiting rooms placed next to high traffic areas like the coffee shop do not position the patient well to obtain any sort of privacy. Design priority is placed on health care workers (HCW) ease of use and outdoor views (Alalouche, 2009). The psychological needs of the patient are secondary to work and patient flow efficiencies. This paper will argue that much work needs to be done in the design of hospitals in order to prioritize and practice visual and auditory patient privacy. Privacy must be built into the architecture rather than be considered a luxury.

Five factors can be identified in relation to privacy and the physical environment: visual, acoustic, olfactory, accessibility and proximity (Hall, 1969). In spite of this categorization, privacy is usually studied in terms of acoustic and visual distribution of information (Alalouche, 2009); therefore these are the two categories that will be focused on in this paper.

Alalouche defines visual privacy “as the amount of visually communicated information as a function of one’s position in relation to the immediate spatial arrangements of the physical environment and the wider surrounding spatial configuration” (2009). In other words, visual privacy is how you are physically seen in a space. He goes on to say that where one prefers to be located in a space defines their desired level of visual privacy. Whereas acoustic privacy is related to the properties of the materials as well as to the architectural design of a spatial environment, visual privacy is governed more by the spatial arrangements of a physical environment (Alalouche, 2009).

### **PRIVACY AND HOSPITAL WARD ROOMS**

Contemporary hospital ward rooms usually house anywhere from four to six patients. In his doctoral work on the privacy of ward rooms in hospitals, Alalouche discovered that patients’ have a universal preference to greater visual privacy when hospitalized. This was true across culture, age and gender, yet it remains of low importance for architects (2009).

In the same dissertation, Alalouche conducted one-on-one interviews with hospital architects from Syria, his birthplace. Much to his surprise, none of the architects considered privacy when designing ward rooms. Privacy did not even come up at all until the author mentioned it. At this point visual privacy was given a mention as important but admittedly none had considered this in their design. They did mention designing around the outdoor views and colour choices (2009).

Alalouche also interviewed United Kingdom (UK) hospital architects. Conversely, these architects did mention privacy as a consideration of design, but admitted that patient observation, infection control and view to the outside were more important (2009). He went on to conduct an email survey of UK architects. Of the 108 who responded, the following came up as the most popular answers when asked what they prioritize in their design of ward rooms: 18% stated a view to outside, 16.2% said nurse observation, 15.2% said access to sanitary facility, 11.7% stated infection control and taking fifth place, 10.7% said patient privacy (2009).

When we think about why ward type rooms exist, I believe there is an obvious advantage to the caregiver; the nurse for example, can travel between patients quickly and easily. Even in a time of shifting focus to patient-centred care, there is a hospital culture of success that is defined by the volume of patients seen in a period of time and the amount of time spent on direct patient interactions. The time it takes to walk from one patient to another is termed as “lost” time. Every visit and minute is tracked. It looks favourable statistically to make frequent contact with each patient but there is no weight or metric given to how, or how much, the privacy needs of the patient are achieved.

### **PRIVACY AND HOSPITAL CHEMOTHERAPY UNITS**

In our classroom forum discussions, I brought up the topic of how I, as a cancer patient, did not enjoy the open concept design of the chemotherapy unit (Ciavaglia and Gambhir, 2020). I did not want a room of 10-15 people watching me as I received treatment, clearly overhearing my name and birthday repeated over and over every time a nurse changed an IV bag (which was usually two to three times a treatment session). Shalini Gambhir, who

works in this space, commented that this type of layout maximizes patient safety, that if there was an emergency, she could quickly access the patient. As a front line worker myself, I can appreciate her perspective. I will argue that safety, or perceived safety, are used as excuses to dismiss patient privacy and psychological needs.

Another concerning practice is the “walk and talk” approach to gaining patient history and updates. I experienced this approach. The nurse would take my weight in a big open room, then we would walk and talk over to the chemotherapy chair. This process acts as another example of efficiencies taking a front seat to privacy. How many people will the HCW and patient pass as they discuss his/her personal information? I remember feeling that this style of interview was not conducive to disclosing sensitive information, for example, how I was feeling mentally since the last treatment. I felt comfortable discussing the mundane, like nausea or dizziness, but was hesitant to discuss anything further out of fear that someone would hear me.

The International Health Facility Guidelines (IHFG) discusses the design of chemotherapy units. The document contains examples of the discrepancy in balancing patient privacy over perceived patient safety. For example, the document outlines that chemotherapy chairs should be laid out in a “racetrack” formation, allowing the nurse to move quickly from one person to another and to have unobstructed sightlines at all times (2016). In a twenty page document, only four lines were given to discuss patient privacy, while eight lines were given to discuss interior design such as colour choices, art suggestions and beverage bays. It would be difficult to “ensure confidently of personal discussions”, as IHFG states (2016), while at the same time lining everyone up like they are cars on a racetrack.

## PRIVACY AND THE LEAN METHODOLOGY

The University of Western Ontario did a qualitative study on how Toyota’s Lean methodology (used in the redesign of an Emergency Department (ED) in London Ontario) actually worsened the ability of the HCW to maintain the information and physical privacy of the patient (Zibrowski et al., 2019). Lean methodology focuses on efficiencies and value add for the patient, while eliminating wasteful

or redundant practices and policies (Lawal et al., 2014). One of the major goals is to achieve faster care, while maintaining high quality care (Lawal et al., 2014). Lean has certainly been championed across Canadian healthcare as a progressive and positive way of doing things (Lawal et al., 2014).

The Western team interviewed 15 nurses and 5 physicians who worked across two EDs in London Ontario. The main focus of these interviews became the front cell. The front cell was a newly configured area where patients flowed after triage. It had three stretchers and six chairs. The stretchers had curtains, but the chairs did not. What the staff reported was that this front cell became a type of second waiting room. Most times patients were accompanied by family, who then accompanied them into the cell, making it very crowded. One nurse highlighted her concerns about the lack of privacy:

You could have patients in chairs surrounded by strangers beside you inches away, and a doctor is asking you questions... Oh, it’s terrible. I think about if I was a patient how I would feel with that and I would probably put a complaint in because there is no privacy there (Zibrowski et al., 2019, p.20).

Though the HCWs stated that they were able to see patients more efficiently, they ended up many times having to remove the patient from the chair and try to find a quiet spot to talk, such as the resuscitation bay or a hallway, as stated by this HCW:

Well, they put patients in the chairs when all the [stretcher] beds are full. So, you’re going to see them in the chairs, but there are other people there. I’m not willing to have those conversations unless it’s maybe an infected finger. (Zibrowski et al., 2019, p.22).

This really puts into question the overall efficacy of this Lean redesign if patients are being taken out of these chairs in order to have a conversation. Zibrowski makes strong points about how all Colleges for Regulated Health Professionals require that we keep a level of confidentiality and that if the environment doesn’t allow

us to do so, it is still our responsibility, and really our licence on the line (2019).

## DISCUSSION

The Personal Health Information Protection Act (PHIPA) tells us that our personal health information is to only be disclosed with our consent (Cavoukian, 2004), yet diagnoses and treatment plans are communicated to patients at the bedside without regard for the others within listening range. Healthcare practitioners are commonly heard discussing patient cases in the hallway or elevators. A study out of St. Michael's Hospital in Toronto counted auditory privacy breaches by HCW in hospital elevators 13 out of 113 rides (Vigod, Bell and Bohnen, 2003). Though the communication between those within the circle of care is acceptable, little regard seems to be made to the location of this communication.

Mohammadi et al. examined hospitalized patients knowledge on various aspects of privacy (2018). While this study was conducted in Iran, and perhaps Canadian patients would yield different results, the findings were still surprising. Forty-seven patients (23.5%) did not think it was necessary for physicians to obtain patients' consent before consulting with their families. Moreover, 105 patients (52.5%) did not believe that physicians needed patients' permission to consult with their colleagues or other members of the medical team in cases of multidisciplinary diagnosis and treatment (Mohammadi et al., 2018). Patients might be willing to give HCW a leniency on privacy practices because they think it will positively affect their health, or they believe this is just how it is done.

Across the three locations explored in this paper—ward rooms, chemotherapy units and the ED—we see the same issues arising, that is, a very low priority being given to physical patient privacy. We cannot put all the blame on the people that design hospitals. In my work as a hospital physiotherapist and now in-patient Manager, I experience a culture of maximization; how much can we accomplish is a short period of time. When I practiced as a physiotherapist, the hospital would review the amount of therapy visits per year; My success as a HCW was measured by high treatment volumes across periods of time. I believe this partly comes from our funding model

and limited funding overall. It is very common to see hospitals boast their high volumes and lowered wait times.

In the United States, new hospitals contain private rooms almost exclusively (Gormely, 2010). Gormley also comments on how the mixing of genders would not be socially accepted in the United States, though it is common practice today in Canada (2010). I believe universally funded hospital care falls victim to the idea that gratitude for “free” health care should override other seemingly less serious concerns. Equally concerning in Canadian hospitals is the cost to obtain a private room. This practice means that those who can afford it get better privacy than those who cannot. This is contradictory to the overall aim of the Canada Health Act and the principles of accessibility and comprehensiveness.

So we have seen that there is a financial component that impacts privacy design (or lack thereof), but there is also an aesthetic component. If you step into a newer hospital or recently renovated hospital space, you notice that the colours tend to be light, there are many more windows, and waiting areas tend to be large and open. On initial sight, the patient may think this is lovely and inviting. Arguably there is a benefit to more light and better views, but these esthetic bonuses come with a physical privacy trade-off.

It will be interesting to see how Covid will leave a lasting effect on hospital design. Two metres distance between patients and less visitors allowed overall. As the pandemic is forcing physical distance between people, it may have the unintended benefit of increasing patient privacy.

## CONCLUSION

Real change in the area of physical privacy must come from all levels of government. Provincial governments need to value privacy as equal to patient volumes, and be willing to invest financially to ensure patient privacy legislation is being fulfilled. CEOs of hospitals must consider not only the number of patients seen in their ED per year but also about the minimal number of visual and auditory privacy breaches per year. Perhaps these privacy

breaches are not considered because there is no monetary penalty for physical privacy breaches, yet there are funding models on patient volumes-the more patients you see, the more money you get.

The culture of privacy is growing, though there seems to be a greater call to action for digital data privacy over visual and auditory privacy. As patients, we all too often feel like we do not have the right to speak up in moment, that this is “just the way it is” and we should feel grateful to be getting care at all. Patients, especially those from vulnerable populations, require advocacy groups to be vocal on the physical and auditory privacy rights of patients. We cannot put the onus on the patient in the moment to express their concern, or think their silence is a form of acceptance. In a equitable world, everyone would be empowered to express their discomfort, but our world is far from perfect. Mechanisms need to be in place so that those who are not comfortable speaking up still have their physical and auditory privacy respected.

I believe innovations in physical privacy could leverage technology. For example, rather than verbally supply identifying information in front of a large group of people, a fingerprint could be used as confirmation of patient identity. I would rather see more funds put into developing physical and auditory privacy mechanisms through technology than enhancing the colour scheme of the building.

We cannot forget that the person in the chemotherapy chair is more than just an intervention within a time frame. As healthcare leaders, we need to promote the importance of patient privacy and focus less on awarding high volumes of care. This requires leaders to understand that sometimes the best care takes a bit longer.

I want to see every patient’s physical and auditory privacy rights being considered more important than the duration of time it takes to complete their treatment. Before new hospital building designs are implemented, patient voices must be included. Patient and Family Advisory Councils are one growing way of helping to ensure the system does not forget who they are working for. Equal access to physical and auditory privacy for all, despite income, age and race, need to be the building blocks on which we construct healthcare institutions.

#### ABOUT THE AUTHOR

Beth hails from Ottawa, Ontario with 17 years’ experience working in the Canadian health care system, as well as multiple medical missions to Haiti and Guatemala. A graduate of a BSc in Physiotherapy from the University of Ottawa and a MHA from the University of Regina, she is well versed academically and professionally in the daily challenges health care workers encounter. As a recent breast cancer survivor, she has developed a strong voice for the rights of all patients, especially amongst those of vulnerable populations. An inaugural member of the Patient and Family Advisory Council for the Ontario Institute for Cancer Research allows her to further her advocacy work in a formal capacity.



## REFERENCES

- Alalouch, Chaham. "Hospital Ward Design: Implications for Space and Privacy". Doctoral dissertation. Heriot-Watt University, 2009. Retrieved from: [https://d1wqtxts1xzle7.cloudfront.net/47749370/AlalouchCR\\_0209\\_sbe.pdf?1470212044=&response-content-disposition=inline%3B+filename%3DHospital\\_ward\\_design\\_implications\\_for\\_sp.pdf&Expires=1606495958&Signature=DgSa-SCO29AtJybopFaDOLuKsCXQzAyCO10EwjKpHprl9mXDgXLBqxtFleT9Fyww62tblk1uO7xKju~7-GZN2g5qqil6nwoaLzuRVREL4rNK66eEzwYEknTNBevNcnAFA21ddtVFNhKehUKH96X-itb3u~bUDWh5pLMLcnZSrY5tM2C7KILScsbXZ3gZ09GjBVP5YhLoM-9alzp4NTEoa6MT~sqPJABliqhMpUMpThSQURJvN1aOvcPybDwKm94vsoFlxcIBD0FiAgao~QP-ZwhDDyRj2ux0AqelhuZsOuM-f1ibFqGz8zShmUAH21MtmTleexUlnSZm8mWV-DGg\\_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA](https://d1wqtxts1xzle7.cloudfront.net/47749370/AlalouchCR_0209_sbe.pdf?1470212044=&response-content-disposition=inline%3B+filename%3DHospital_ward_design_implications_for_sp.pdf&Expires=1606495958&Signature=DgSa-SCO29AtJybopFaDOLuKsCXQzAyCO10EwjKpHprl9mXDgXLBqxtFleT9Fyww62tblk1uO7xKju~7-GZN2g5qqil6nwoaLzuRVREL4rNK66eEzwYEknTNBevNcnAFA21ddtVFNhKehUKH96X-itb3u~bUDWh5pLMLcnZSrY5tM2C7KILScsbXZ3gZ09GjBVP5YhLoM-9alzp4NTEoa6MT~sqPJABliqhMpUMpThSQURJvN1aOvcPybDwKm94vsoFlxcIBD0FiAgao~QP-ZwhDDyRj2ux0AqelhuZsOuM-f1ibFqGz8zShmUAH21MtmTleexUlnSZm8mWV-DGg_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)
- Cavoukian, Ann. December 2004. *A Guide to the Personal Health Information Protection Act*. Retrieved from: <https://www.ipc.on.ca/wp-content/uploads/Resources/hguide-e.pdf>
- Ciavaglia, E. and Shalini Gambhir. "Sensitive health information disclosure and physical spaces". Class discussion forum. JSGS 856. University of Regina, Saskatchewan, September 29, 2020.
- Gormely, Tom. March 2010. The History of Hospitals and Wards. *Healthcare Design*. 10(3):50-54. Retrieved from: <https://www.healthcaredesignmagazine.com/architecture/history-hospitals-and-wards/>
- Hall, E. T. 1969. *The hidden dimension: An anthropologist examines man's use of space in public and private*. New York, Anchor Books.
- International Health Facility Guidelines. May 2016. *Part B: Health Facility Briefing and Design. Oncology Unit-Medical (Chemotherapy)*. Retrieved from [http://healthfacilityguidelines.com/ViewPDF/ViewIndexPDF/iHFG\\_part\\_b\\_oncology\\_medical\\_chemotherapy](http://healthfacilityguidelines.com/ViewPDF/ViewIndexPDF/iHFG_part_b_oncology_medical_chemotherapy)
- Lawal, A. K., Rotter, T., Kinsman, L., Sari, N., Harrison, L., Jeffery, C., Kutz, M., Khan, M. F., & Flynn, R. 2014. Lean management in health care: definition, concepts, methodology and effects reported (systematic review protocol). *Systematic reviews*, 3, 103. <https://doi.org/10.1186/2046-4053-3-103>
- Mohammadi, M., Larijani, B., Emami Razavi, S. H., Fotouhi, A., Ghaderi, A., Madani, S. J., and Shafiee, M. N. 2018. Do patients know that physicians should be confidential? study on patients' awareness of privacy and confidentiality. *Journal of medical ethics and history of medicine*, 11, 1. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6150920/>
- Vigod, S. N., Bell, C. M., and Bohnen, J. M. 2003. Privacy of patients' information in hospital lifts: observational study. *BMJ (Clinical research ed.)*. 327(7422), 1024–1025.
- DOI: [10.1136/bmj.327.7422.1024](https://doi.org/10.1136/bmj.327.7422.1024)
- Zibrowski E, Shepherd L, Booth R, Sedig K and Gibson C. 2019. A Qualitative Study of the Theory Behind the Chairs: Balancing Lean-Accelerated Patient Flow With the Need for Privacy and Confidentiality in an Emergency Medicine Setting. *JMIR Hum Factors*. 6(1):e11714
- DOI: [10.2196/11714](https://doi.org/10.2196/11714)