

Changing buildings; building change!

THIS essay has an ambitious aim: to enrich and revitalise our daily work. I hope to do so by encouraging change in our work environment. Strikingly simple, perhaps, but sometimes simple solutions are best — and most easily overlooked.

To begin with, consider the term ‘built environment’ — ‘architect-speak’ for the structural landscape that surrounds us. Architects think of the built environment as more than a pile of bricks — and rightly so; buildings are considered in terms of form, function, spaces, and textures. Ask an architect to define ‘the built environment’ and they will get quite excited, as if they are talking about a spiritual entity. Do they know something we don’t?

The answer rests with Florence Nightingale, pioneer of the ‘new’ healthcare environment. She found that recovery from illness could be improved by introducing light and fresh air to the previously dank, dark spaces of the early hospitals. The results created the template for ward design for the next century.

Some 100 years on, the principle behind the Nightingale ward layout was tested by Ulrich.¹ He found that recovery from surgery could be hastened if patients had access to a window with views onto a natural landscape. This single study triggered further research addressing the following questions:

- How does the built environment influence the ability to cope with illness?
- Is there a psychological basis for the effect of the built environment?
- Can the effect be illustrated in terms of clinical, and other meaningful, outcomes?

How does the built environment influence the ability to cope with illness?

The key word here is stress. Ulrich suggests that the built environment can contain features that are stressors in themselves.² Where there is added stress, the ability to cope with illness is reduced. This should not be too difficult a concept to digest — as GPs we see this happening every day. What might be testing is considering a pile of bricks to be the source of such stress.

Remember the last time you had to get somewhere important, and you just didn’t know where you were going? Now, imagine you’re feeling ill; you’re called to the doctor’s consulting room; a maze of corridors lies ahead; you end up at the fire exit. Your head is spinning; you rush back the other way, head pounding, throat dry — it wasn’t sore when you came in, was it? Finally you get to the consulting room, sweaty and clammy. Walls are pasted with pictures of innards, a model of a spine wobbles on the desk and, at your back, a tray of sharp, gleaming, painful things. If you aren’t stressed now that’s because you’re a doctor — it’s different for patients.

The built environment may also contribute to

the stress of illness by not providing spaces for family support. Simple enough, but often forgotten. And what about distraction? Now it is widely accepted that symptom perception can be ameliorated by positive distraction.³ Positive mental states can be generated by colour⁴ and access to natural light,⁵ rather than fluorescent lighting which, curiously, registers as darkness to the human brain.

Some consider loss of control to be the basis behind architecturally induced stress. Taylor⁵ proposes that control enables the individual to attain a ‘sense of mastery’ over the unpredictability of illness, facilitating coping and potentially improved clinical outcomes.

In summary, an environment that fosters control, that provides distraction and that is, quite literally, enlightening, enhances the ability to cope with illness.

And yet this understanding has not translated into practice. Is this because we think that coping with illness happens ‘outside’, beyond the confines of the surgery? I would like to suggest that coping begins from the very moment of symptom awareness. The journeys to the surgery, the wait in the waiting room, the consultation and beyond, all influence how patients cope with illness. The built environment is there every step of the way — it cannot be ignored.

Is there a psychological basis for the effect of the built environment?

Yes, and it’s called architectural determinism, the premise being that behaviour is shaped by the environment, which provides ‘cues for behaviour’.⁶ To make this a bit more real, consider this: why do dogs howl when they arrive at the vet? Could it be that they associate the smell, sight, and sounds of the surgery with fear, pain, and loss of control? Are we humans any different? Does poor design create the same agitation among our patients?

Environmental psychologists suggest that current healthcare design reinforces the power imbalance between physicians and patients, with expectant adverse effects on the interaction between them. Malkin⁷ suggested that medical offices have been designed from a purely functional perspective, leaving them ‘resistant to human imprint’, depersonalised, and cold. The resulting architecture alienates and intimidates, reducing the adult to a helpless child. Helplessness is accelerated when physicians are protected by a fortress-like desk and an imposing chair from which they talk down to their patients. The clinical coldness so common to healthcare facilities may create fear and a reluctance to seek help. A chaotic consulting room may raise doubts in patients’ minds as to the doctor’s ability, suggesting that they may be similarly chaotic in their care provision. Malkin also suggested that the increased use of computers may serve to further alienate patients, reducing them to simple numbers.

References

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In short, perceived loss of control, negative behavioural cues, and depersonalisation form the psychological basis behind the effect of the built environment. Supportive, or therapeutic design as it is sometimes referred to, seeks to redress this balance (Box 1).

Can the effect of the built environment be demonstrated in terms of clinical and other meaningful outcomes?

Firstly, let us look at clinical outcomes. Lawson and Phiri⁸ conducted a 3-year study assessing the effects of the built environment on clinical outcomes. Psychiatric patients in a refurbished hospital ward had shorter hospital stays (14% shorter), and orthopaedic patients required less analgesia when compared with patients in a conventional ward. In addition, on the basis of staff reports, aggressive outbursts among psychiatric patients were fewer in the refurbished ward; rates of recovery were also reported as better for those psychiatric patients in the refurbished ward (79%) versus the conventional ward (60%).

A comprehensive systematic review on the effect of noise, light, and colour on various study populations⁹ offers further support for therapeutic design principles. Curiously, the effect of the environment seems to extend to a cellular level, with improved immune responses being linked with positive mental states mediated by a calming environment.¹⁰ Again, this is something we already know — it is the old ‘mind–body’ thing, now redefined as psychoneuroimmunology, or PNI. The added extra, if you like, is the environment, so it becomes ‘environment–mind–body’.

Apart from purely clinical endpoints, a study looking at patient perceptions of the built environment provides interesting reading. MacCrae¹¹ found that patients appear to have more confidence in their care when they are in attractive, calming environments. Importantly, she also found that patients regarded the built environment as important. Furthermore, the environment is regarded by patients as a key arbiter in the final judgement about overall satisfaction with care.

Recruitment and retention — the Achilles heel of the NHS — also falls under the spell of the environment. The Physician Worklife Study¹² revealed that environment was a major determinant of job stress, and that high levels of ambient noise correlated closely with burnout among intensive care unit nurses.¹³

Taken as a whole, the built environment seems to have an impact at virtually every level — coping with illness, influencing the doctor–patient interaction, clinical outcomes, staff recruitment, and job satisfaction.

And what of research on the built environment and primary care? There is very little. Some work is ongoing in the US,⁹ but elsewhere this area has hardly been touched — now that is surprising.

Implications

Communication stemming from a healthy doctor–patient relationship improves patient satisfaction, concordance and, hence, clinical outcomes — that much is a given. How can we hope to achieve this if the existing built environment creates, to quote Malkin, a ‘reluctance to seek help’, ‘a power imbalance’ with ‘adverse effects on interaction’, ‘helplessness’, and ‘alienation’.⁷

Our study (J Mizan, unpublished data, 2004) explored what would happen if we broke with traditional consulting room design. It suggests that a supportive environment enhances verbal and non-verbal communication, facilitated through a reduction in anxiety, and a new and more equitable doctor–patient interaction. Shared decision making is also improved. These outcomes seem altogether more wholesome.

Although encouraging, more research is urgently needed in primary care. The LIFT (Local Improvement Finance Trust) programme is in full swing and new premises are being thrown up with little consideration of the principles of supportive design, or to future-proofing these new buildings. We are aware that the nature of primary care and its workforce is changing — how should this new workforce be accommodated? And what about medical education? Traditionally, medical students have been squeezed in to already suboptimal premises. Now there is an opportunity for education to be factored into the health centre of the future. Evidence will be needed to support potential costs that might accompany such considerations.

And yet, only last week I visited a newly built surgery that looked like a block of concrete. Why so? Perhaps there is pressure for these projects to be ‘done and dusted’ in time for the next general election. Cynical perhaps, but there seems to be a ring of truth to it. There is also no clear concept of optimal design for primary care, through lack of research. And, finally, I suspect that there is a lack of awareness among stakeholders of the importance of the built environment. And so it is ignored in the rush to get the new building complete.

None of these issues is insurmountable. Already a new unit dedicated to researching this area has been established at King’s College — the Healthcare Design Research Unit. It cannot do this work alone. GPs need to become more involved, to understand the concept of a supportive environment, and to be critical of design proposals. A paradigmatic shift is needed, moving away from thinking that design matters only in the home and not at work, away from thinking that health care is only about knowledge and clinical skills. Knowledge and clinical skill will not help in the face of poor communication. And everything suggests that the built environment can make or break

both the interaction with patients and their ability to cope with their illnesses.

One parting shot — if we are going to work in the same place for the next however many years, shouldn’t it be where we enjoy working? A place that subtly influences each and every consultation to work in our favour, that improves patient satisfaction, and our job satisfaction. It can be just that. The ball is in our court.

Jacques Mizan

Box 1. A guide to therapeutic design

The consulting room

- Consider the patient as a guest, not an inmate
- Maximise natural lighting — large, uncluttered windows; minimise harsh fluorescent lighting — use soft uplighters and dedicated task lighting instead
- Bring nature into the room — plants, pictures, views
- Use warm paint colours and simple natural textiles on furnishings
- Provide comfortable ‘same level’ seating for all
- Ensure shared access to a low-profile computer monitor
- A chaotic room suggests chaotic care — get organised!

Waiting room

- Avoid seats in rows — small circular clusters work best
- Empower your patients through interactive IT facilities
- Have an open, low-level, curved reception counter not a high counter with barriers
- Consider a ‘therapeutic’ garden for relaxation and gathering of thoughts

Staff spaces

- Provide quiet space far from the madding crowd — no phones, no computers!
- Incorporate ‘bump zones’ into building design — circular design rather than offices off long corridors means that people will see and ‘bump’ into each other allowing for opportunistic contact

Learning space

- Aim for a dedicated learning space, not a bookshelf in the coffee room
- This should double up as a meeting room taking, care to avoid large conference desks
- Make it a healing space too — people learn better and better decisions are made in such environments