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Christmas 2017: Time and Place

Brutalist medicine: a reflection on the architecture of healthcare

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Will the fashion for evidence based medicine and technological solutions come to be viewed the same way as brutalist architecture, asks Benjamin Mazer

The current fashion in medicine is to label things as either “evidence based” or “not evidence based.” We use these labels to describe treatments, diagnostic tests, public health policies, and even people. This dichotomous worldview, however, fails to capture the nuance of the medical landscape. The use of evidence to drive medical decision making should be lauded, but there will always be more to providing proper healthcare than reading statistics in a journal or following clinical algorithms. The shorthand we use to convey this reality is “the art of medicine.” I think a better analogy would be “the architecture of medicine.” After all, proper medical care has a structure built around a clear purpose: to improve the health of the patient. It is engineering with flair.

At the same time, an unyielding focus on utility and regulatory compliance is the cause of many of contemporary medicine's vivid eyesores: the proliferation of rigid yet contradictory clinical guidelines; blunt point-of-care applications; and electronic medical record systems usually described as a hurdle rather than as a tool. Each of these engineering innovations promised medicine a new evidence based foundation but have instead been introduced without considering the longstanding traditions our community holds dear. This contradiction in today's medical practice, its simultaneous focus and myopia, is reminiscent of the brutalist architecture movement.

Brutalism was a fashionable global architectural phenomenon that peaked in the 1960s and 70s, but the avant-garde structures were then rapidly rejected as ugly, socialist nightmares. Brutalism valued unabashed utilitarian design. It sought to make plain the elements of its construction, projecting durability over cleverness. Yet this

architectural style was as much statement as function. Concrete and simple geometry reigned, even when more delicate structures may have done the trick. For a style so intent on being practical, it often got in its own way, making the users of such structures feel uncomfortable and unwelcome. Despite the current unpopularity of the style, many brutalist monuments still exist today as government and university buildings, where fiscal necessity has ensured their survival.

Emphasis on utility

The brutalist architectural style is an appropriate analogy for the modern healthcare agenda. In a vigorous rejection of the “art of medicine,” we have placed a special emphasis on utility. Today’s physician must use interventions to produce outcomes, plain and simple. This new utilitarian strain believes evidence is the raw material, and hospitals and clinics will be built from this foundation into sturdy sanctuaries against disease. My definition of brutalist medicine is “medicine so intentionally functional that it erects its own barriers.”

One element of this brutalist mode in medicine is the clinical guideline. The proliferation of clinical guidelines promises to “operationalise” the research literature, turning it from an intellectual exercise into a rugged carapace for the vulnerable doctor. Small trends become universal guidance, contorted to apply to disparate situations. Like a geometric slab of concrete, clinical guidelines at first seem to ward off the dangers of our environment. Yet too often they are designed in isolation, so focused on being decisive that they cannot blend into their clinical milieu.

We all have stories of sepsis or stroke protocols being applied haphazardly, for example, producing absurd and sometimes dangerous results. The need to meet rapid treatment goals, the ease of automated order sets, and an over-reliance on metrics could lead a physician to deliver a fluid bolus to a patient who has pulmonary oedema not pneumonia. Clot busting drugs may be given to a patient during a “stroke alert” who would have been found to have a conversion disorder if our system talked about “door to clinical history time” the way it emphasises “door to needle” time.

“Point of care” has become another one of brutalist medicine’s battlefronts. Academics and entrepreneurs alike are convinced that bedside applications, equations, and heuristics will save doctors from themselves. The PHQ-9 depression questionnaire is one of the iconic looks of this form of brutalist medicine. Instead of asking patients about how they’re feeling, we can simply administer these surveys. I suspect the numbers and boxes of the PHQ-9 will one day look as out of place in medicine as grey jutting geometries do in many of today’s neighbourhoods. Task specific applications may be the quickest path between symptoms and treatment, but strengthening patient understanding, comfort, and self efficacy require a more convoluted route.

Perhaps medicine’s most notable brutalist landmarks are electronic medical record systems. Many clumsy medical record systems are in use worldwide, but the

dominant record keeping system for 200 million Americans is Epic, making it one of the US's biggest landmarks.

Epic has achieved ubiquity and prosperity through its unfettered drive toward usefulness and compliance. Whenever healthcare faces a documentation quandary, Epic is right there. From documenting a patient's blood pressure to reporting the patient's autopsy results, Epic can do it. The evidentiary life of the patient lives in this behemoth piece of software. It is in connecting to our existing infrastructure and creating pleasant usability that Epic falls short. The architectural equivalent is the grand but dysfunctional city of Brasília.

As physicians succumb to burnout, they spend increasing time on the regulatory nightmare that contemporary medicine has become, with Epic taking over. We are tasked with not only doing more but documenting more. This responsibility comes from many angles. Reimbursement depends on it. The "standard of care" requires ever more rule-in and rule-out tests. Well meaning administrators and public health researchers "nudge" us toward the "right thing," as evidenced by some clinical trial or case study. But the benefit to individual patients is not always apparent.

Lessons from brutalism

I don't mean to sound too sardonic. I love brutalist architecture: the buildings are insistent, powerful, and dependable. Endearingly, they mirror the ungraceful way that people age, accruing both structural cracks and new uses over time.

But brutalism's flaws must also be recognised. These buildings can get in the way. Hanging up a picture or repainting when your wall is made of concrete isn't exactly an intuitive act. Heating and cooling these buildings can require some deft physics.

If as physicians we are going to be architects of useful, dependable care, we should heed the lessons of this movement. Our systems must not stand alone. They must not define themselves solely as "evidence based" or "standardised." As Epic shows, our tools will not be our refuge, no matter how complete they are. Many of medicine's instruments, regulations, and practices are currently designed as monuments to themselves.

At the same time, we may wish to adopt brutalism's desire to ignore unnecessary adornments. Both healthcare and architecture use pretentious flourishes as dazzling distractions. Let's reflect on whether high resolution imaging, precision genomics, or unflinching screening protocols are really making patients better.

Medicine is neither a planned community nor a city of monuments. I think there is wisdom within the chaos of the clinic or hospital. The power of evidence based medicine is its isolation of an intervention, which promises to clarify some universal principle. But many solutions in medicine are self emerging and local, not engineered and universal. The look of relief on a patient's face will never surrender itself to a metric, nor will the

wellbeing of my community. If the outcomes themselves can never be fully defined, medicine's tools and structures must also incorporate leniency.

Let's begin to imagine what a post-modern architecture in medicine could look like. Urban activist Jane Jacobs famously described the "eyes on the street:" the loyal residents who keep a neighbourhood safe and liveable. In medicine, our eyes on the street are patients, who maintain a natural awareness of the values most meaningful to them. Evidence based medicine is a fine raw material and must not be discarded. But I am certain that evidence based medicine's utopia does not look like today's healthcare landscape.

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