

dear residents

The Architecture of Attention

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Dear Residents,

The **VUCA** model: **Volatility, Uncertainty, Complexity, and Ambiguity**, began in military strategy and has since migrated into business, education, and healthcare. Medicine, as you know, is particularly fond of borrowing language from other sectors. **Healthcare Failure Mode and Effect Analysis** (HFMEA) traces its roots to military risk modeling. **SWOT** analysis emerged from the business world. Now VUCA has [joined](#) our lexicon.

What is the VUCA model?

BiteSize Learning



Volatility

A key aspect of your work is subject to major, unpredictable peaks and troughs.



Uncertainty

The future is unknown, but external events are likely to be impactful.



Complexity

Many interconnected factors influence one another, in ways that are challenging to model confidently.



Ambiguity

Conflicting, noisy or insufficient data makes it difficult to assess what's really going on.

And it fits. Admissions arrive in **unpredictable** waves (queuing theory seems not to apply to inpatient medicine). Diagnostic **uncertainty** persists despite ever-advancing imaging and laboratory tools. Disease presentations are increasingly **complex**, layered with multimorbidity, polypharmacy, and social determinants that resist clean categorization. Meanwhile, the data stream grows louder: some valid, some erroneous, some unnecessary, some actively misleading. Noise becomes **ambiguity**.

Simply naming this reality by calling it VUCA creates space. Language gives structure to experience. It allows anticipation rather than reaction. Psychological safety then becomes the counterweight. It gives us permission to say, “Something isn’t right.” To pause. To recalibrate. To challenge respectfully. To notice early drift before it becomes harm.

Hospitals, in their pursuit of high reliability, have built layers of contingency: rapid response teams, code teams, behavioral emergency response teams, security infrastructure, fall sensors, device alarms, early warning scores like Modified Early Warning Score (MEWS) and qSOFA. These systems aim to detect deterioration before it becomes irreversible. Many are clearly preventive and lifesaving.

But they are not free. There is financial cost. There is operational cost. And there is cognitive cost. Each alert, each protocol, each redundancy adds protection but also adds noise. High reliability depends not only on redundancy, but on human cognitive bandwidth. We have built systems to rescue patients from volatility. We have invested less in protecting clinicians from its cognitive toll.

In our understandable pursuit of becoming a high reliability organization, we may not always measure the downstream burden of vigilance. Much of our contingency planning operates at the far end of causation, intervening once instability is visible rather than preventing it upstream..

We have evolved in other ways. Physical restraints have largely given way to sitters and redirection. Patient rooms are increasingly designed around light, comfort, and healing. We think carefully about patient-centered architecture.

And yet, our workrooms are often spartan. Windowless. Overcrowded. Functional but not restorative. The places where you think, decide, document, and decompress are rarely designed with the same intentionality as the spaces where patients heal.

If VUCA describes the environment, and high reliability describes the aspiration, perhaps the next leap forward in healthcare is simpler: care of the caregiver as a structural design principle rather than a wellness slogan.

Reliability is not just about alarms and contingency plans. It is about cognitive clarity. Emotional steadiness. Sustainable attention. The system cannot be reliable if the people within it are depleted. Perhaps the next evolution in hospital design will not just ask, “How do we rescue patients faster?” but also, “How do we help clinicians think better?”

The word “hospital” shares its root with “host” and “hospitality.” A hospital was once, fundamentally, a place of receiving, a shelter for the vulnerable. In our pursuit of reliability, we have engineered systems of rescue. We might ask whether we have preserved the conditions of hospitality, not only for patients, but for those who care for them.

If we want durable reliability, we must design for the limits of human attention, not just the possibilities of technology. That may be the quiet frontier of safety.

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