

# Sustained Readiness. Confident Decisions.

The research behind how clinicians learn, retain, and decide under pressure.



## Knowledge fades fast at the bedside.

Clinicians lose roughly 40% of new protocol knowledge within a month, and up to 90% within six. It isn't a lack of effort; it's how memory works when protocols are taught once, in a single long session.

Karibu turns facility protocols into five-minute scenarios and point-of-care answers, reinforced across shifts so staff recognize, recall, and act on what matters.

## Six Design Principles



### MICROLEARNING

01

#### Less stress on shift

In a randomized ICU-nurse trial, short daily learning bursts cut stress and anxiety by **16%**.

#### APPLIED IN KARIBU

Five-minute protocol units on the clinician's device, at shift start or before a procedure.

Monib, Heliyon 2025; Khalili, BMC Med Educ 2024.



### SPACED RETRIEVAL

02

#### Knowledge that sticks

Across 26,258 physicians, spacing learning over time beat studying once by **15 points**; actively recalling beats re-reading ( $g = 0.61$ , 118 studies).

#### APPLIED IN KARIBU

Reinforced across shifts at growing intervals — and every reinforcement is a question the clinician must answer, not a passage to re-read.

Donoghue & Hattie, Front Educ 2021; McConnell, Acad Med 2025.



### SCENARIO-BASED

03

#### Sharper bedside skills

Clinicians who trained on real scenarios outperformed lecture-prepared peers by a wide margin (**SMD 1.45**, 16-trial meta-analysis).

#### APPLIED IN KARIBU

Each unit is a scenario the clinician must recognize and act on, not policy text to read.

Liu, Nurse Educ Today 2024 (16-trial meta-analysis).



### JUST-IN-TIME ACCESS

04

#### Faster, confident decisions

In a 6-month nurse trial, point-of-care answers changed what staff did at the bedside, not just what they knew.

#### APPLIED IN KARIBU

Ask protocol questions in plain words, like a change-of-condition escalation, on shift.

Glanville, JMIR 2023; Gartrell, Comput Inform Nurs 2023.



### AI-SUPPORTED DECISIONS

05

#### More problems solved

AI tutoring matched human tutors and helped learners solve **5.5 points** more problems they hadn't seen before.

#### APPLIED IN KARIBU

Facility-tuned AI, grounded only in approved protocols, cited to source, flagged for educator review.

Kestin, Sci Rep 2025; LearnLM & Eedi, 2025 preprint.



### COGNITIVE LOAD

06

#### Design beats memory

Clear, well-structured protocols drive better decisions more than how much staff memorize.

#### APPLIED IN KARIBU

Protocols broken into single-topic units; concise answers at the moment of need.

Path analysis, BMC Med Educ 2024; physiotherapy RCT 2025.

Every principle here is backed by published research. Outcome data specific to Karibu in skilled-nursing facilities is being collected through active pilots.

