Decibel Monitoring System
BLK-Max Super Speciality Hospital, New Delhi

About the Organization
- Dr. B.L. Kapur Memorial Hospital
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- NABH & JCI accredited
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Problem Statement / Digital Challenge
- Excessive high noise levels across zones compromised patient recovery, sleep, cognition, and comfort especially in critical care units and vulnerable patients.

- Real time IoT based sound monitoring device was required to align with the WHO guidelines on hospital noise levels

- Impacted Care of Patients (COP), Patient Safety & Quality Improvement (PSQ) aligning with NABH's Digital Health Standards (accessibility, real-time data and patient-centered care)

Digital Tool / Solution Implemented
- An integrated system comprising 49 IoT noise sensors with red/green visual alerts, centralized real-time dashboards, automated daily email alerts, analytics platform, and digital displays placed strategically across the hospital.
- The digital solution was delivered via in-house planning with phased vendor collaboration for technical integration and rollout.
- Key Features-
  - Real-time compliance visuals (green/red)
  - Live dashboard and digital displays
  - Automated stakeholder email alerts
  - Pattern analytics for noise mapping and root cause discovery
  - Desktop wallpapers to reinforce staff awareness

Digital Implementation Highlight
- Executed over a 3-month period (June–August 2024), including POC and integration testing, followed by full deployment.

Digital Impact
- Achieved a 15–20% increase in patient comfort satisfaction, a 10% reduction in cortisol among psychiatric patients, improved communication and cognitive engagement, enhanced operational focus, better patient retention and referrals, and fostered a quieter, safer healing environment.

Enablers:
- Detailed requirement analysis, vendor-led phased approach, immersive staff training, and visible feedback systems.

Challenges:
- Locating high-noise zones, integrating systems, ensuring staff compliance.

Lessons Learned / Replicability
- Targeted analytics and visualization (visual alerts + dashboards) enable timely, actionable noise control.
- Phased rollout and POC minimize operational disruption and allow technical fine-tuning.
- Continuous training and awareness cues (e.g. wallpaper and dashboards) sustain staff engagement.