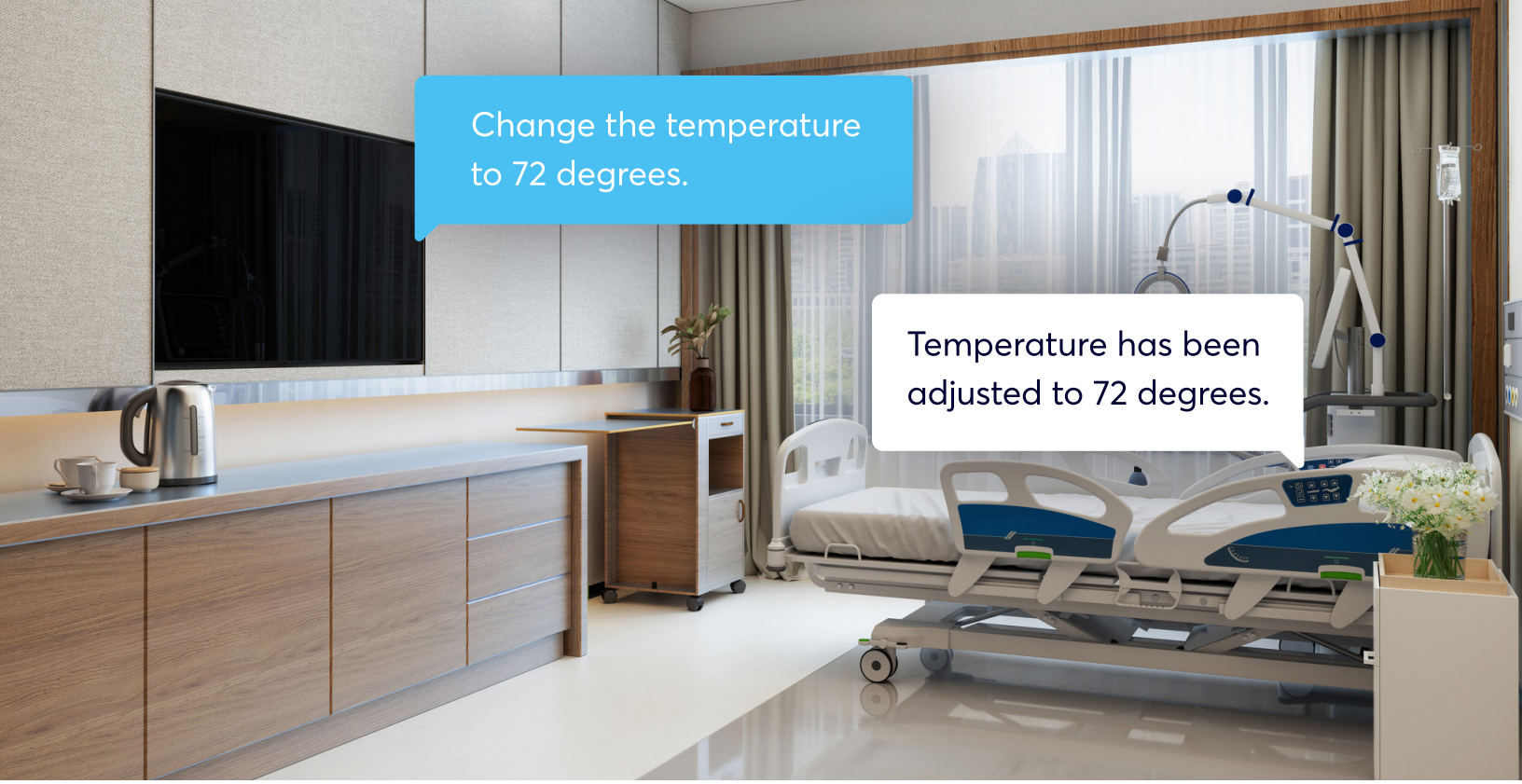


3 Ground Rules for Building Smart Patient Rooms

"Nobody wants to build a dumb hospital."

Healthcare executives will tell you they need smart-room technology to meet rising patient expectations and cope with nursing shortages. But they often find themselves – and their traditional vendors – navigating completely new waters. This guide draws on Aiva's 7 years of experience to provide four key considerations for making your patient rooms smarter.

Background

More than 36% of Americans use smart speakers like Amazon Alexa, and 60% use voice assistants on either a smart speaker or their phone. They're increasingly expecting the same convenience and control during hospital stays. For example, at BayCare Health in Tampa, Florida, VP of Innovation Craig Anderson says they "looked at our patient satisfaction scores, and we were able to see a large uptick in those rooms where we used this technology."

Primary use-cases for Smart Rooms include voice control of lights, blinds, thermostats and TVs, including content like medication education housed in patient experience systems.

Beyond patient benefits, health systems are turning to Smart Rooms to reduce nurses' workload. Enabling patients to manage their room themselves allows nurses to practice at the top of their license by focusing on more high-value, hands-on care. "Alexa frees up so much time with little things where before I had to go into a room and the patient wanted the lights out but now the patient can do it independently," says Erin Strandberg, a Registered Nurse at Jefferson Health's Magee Rehabilitation Hospital in Philadelphia. Magee reported saving nurses thousands of lower-value room entries per month.

Ground Rules

1. Map the Device to Your Needs

What device(s) will you use to enable patients, family and nurses to control your Smart Rooms – Alexa smart speakers or mobile phones?

If you want ambient voice control, you'll be able to choose from several Alexa devices options (see sidebar). If you want mobile control too, you can let patients use their personal phone to text or speak commands into either their SMS app (like Apple's iMessage) or your hospital's patient portal app. For the portal app, clients can integrate Aiva's SDK, which works with Epic and soon Cerner. Note that whether you use ambient voice or mobile control or both, people besides the patient can make commands – whether it's a family member in the room or a nurse in the room or on the go.

2. Bake Smart Devices into Your Design

Whether you're doing new construction or remodeling existing facilities, adding Smart Room controls can meaningfully affect other design decisions, so the earlier you nail down your strategy, the better.

- **Positioning.** If you use an Alexa device, you'll want to place it in the patient's line of sight. The closer the better – especially for the screen-enabled Shows. And you'll want to factor in its power source and whatever mount you choose.
- **Smart Devices.** Make sure your lights, blinds, thermostats and TV can be controlled via their IP address (although alternatives are discussed below).
- **Other Systems.** Given the communication and control capabilities you'll get with Smart Room assistance, you may need fewer other systems. For example, if you are considering iPads or other tablets primarily for room controls, telehealth, help requests, music or access to patient portals, ambient voice or mobile assistance could save you the expense and hassle of buying, maintaining, charging and storing those tablets. Also, smart speakers can ride your PBX system, meaning you may be able to forego traditional phones in patient rooms.

Alexa Devices

Many (but not all) Amazon smart speakers work in enterprise settings – on the Alexa Smart Properties for Healthcare platform. Here are pros/cons for some current options:

Echo Dot (5th Generation)

Pros: Small = easier to mount.

Cons: No screen for video, in-room messaging

Echo Show (3rd Gen)

Pros: Screen for messaging, video, navigation

Cons: Harder to mount close enough to see

Echo Show 15 (1st Gen)

Pros: Large (15") screen, comes with wall mount.

Cons: Price; still hard to read across a room.

Echo Hub (1st Gen)

Pros: Ideal for Smart Room integrations.

Cons: No music or other programming.

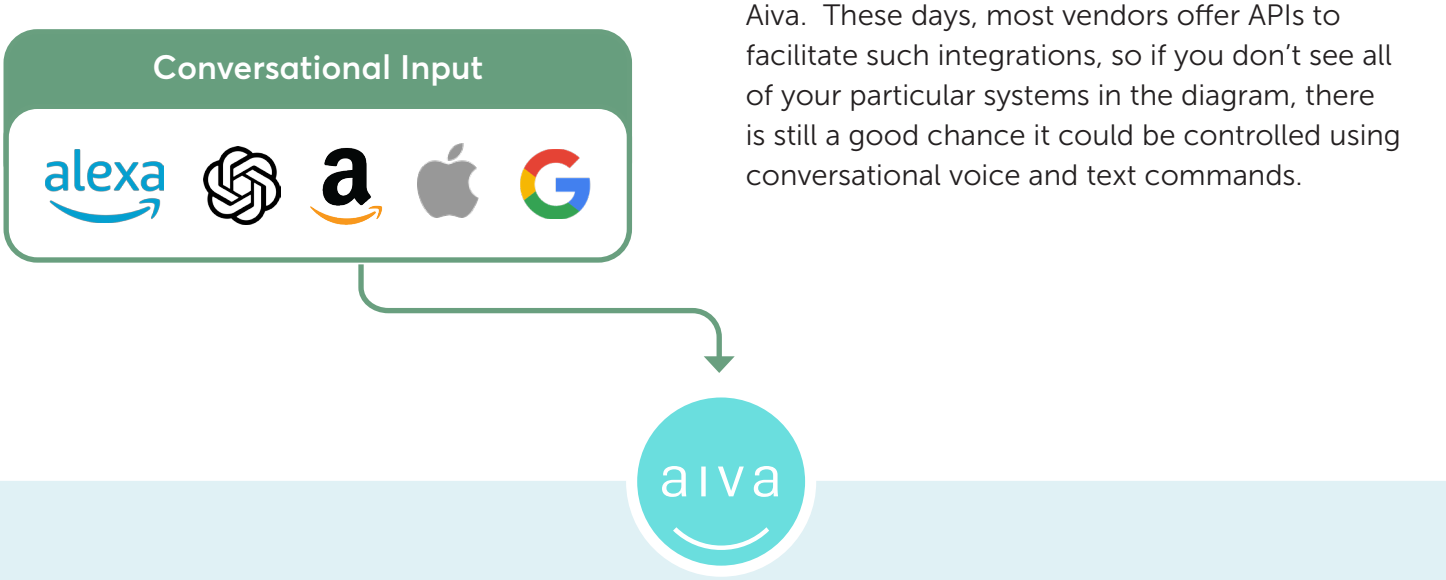
Sources: *Voice assistants in US households.*

3. Centralize Smart Devices

Smart Room assistants like Aiva can work with individual smart devices like smart lights, smart blinds, et al, but the most efficient approach is to connect the assistant to a hub that already controls those other devices. This limits your integration points and potential points of failure. For example, Aiva integrates with Building Management Systems (BMSs) like Siemens Desigo, Johnson Controls' Metasys and Trane to control lights, blinds and thermostats. And with Patient Experience (PX) platforms like GetWell, Sonifi, Vibe and pCare to control TV sets and any content provided by the PX vendor, including movies/shows, education, meal menus and access to the the patient portal.

If your rooms aren't controlled by a BMS, you have other options. Aiva also works with vendors like Hatchmed to enable voice or text control of any devices controlled by your pillowspeaker. For example, many hospitals have added buttons to their Rauland-powered pillowspeakers that not only send alerts to nurses but also control lights, blinds, thermostats and TVs. By attaching to the pillowspeaker, the Aiva/Hatchmed integration lets patients or nurses control those same devices by talking to a smart speaker or speaking or texting into a mobile app.

The diagram below illustrates the types of systems you can control leveraging integrations from Aiva. These days, most vendors offer APIs to facilitate such integrations, so if you don't see all of your particular systems in the diagram, there is still a good chance it could be controlled using conversational voice and text commands.



About Aiva

Aiva is the leading virtual assistance platform for healthcare and assisted living.

The company was created with a simple goal: improve the health and experience of patients, seniors and their caregivers.

Our platform allows users to input commands using conversational voice and text and allows staff to communicate through calls, audio messages and in-room digital signage. We integrate with 40+ systems already found in acute and long-term care communities, enabling virtual control over systems like lighting, blinds, thermostats, TVs, EHRs, patient experience platforms, telecommunications and medication education.

Clients use Aiva's dashboard to manage voice assistants like Amazon Alexa devices, as well as other connected devices like smart lights and thermostats. The dashboard also offers analytics, as well as easy tools for managing the content delivered through Alexa devices.

Aiva provides virtual assistance in more than 10,000 rooms across the U.S. and Canada. Clients include Cedars-Sinai Medical Center, BayCare Health, Houston Methodist Hospital, Boston Children's Hospital and Moffitt Cancer Center. Aiva is based in Los Angeles, and investors include Amazon and Google.

Benefits

- **For patients**: More control, convenience and entertainment
- **For nurses:** Less busywork, more time for hands-on care
- **For administrators:** ROI from greater staff efficiency and higher HCAHPS

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