

# Smart Home Devices to Promote Independence, Safety & Security for Persons with IDD

**Barbara Silver-Thorn, PhD, ATP**  
Head of Innovation & Assistive Technology



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## Objectives

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1. Define smart home device
2. Learn what devices are available
3. Understand the potential benefits of smart home tech

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## Smart Home Devices: What Are They?

- Requires: internet connection
- Benefits: What makes them “smart”?
  - Devices can be **controlled remotely** from anywhere
    - using a smartphone or other networked device
  - Devices can be **interconnected to work together**
  - User can create **schedules, routines** to **customize** their preferred use

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## What's Available? What Are the Benefits?

Smart Speakers or Voice Assistants: **Amazon Echo**, **Google Nest**



<https://www.youtube.com/watch?v=dPuTcuKhEuw>

- What Can it Do? --- **Independence, Time Management**
  - Inquiry: time, weather, store hours & location...
  - Recipes
  - Shopping list, To Do list
  - Timer(s)
  - Alarm(s)
  - **\*\*Reminders**
  - Calendar
  - Voice control of smart devices
  - (Accessibility features: screen only)
  - Music
  - (Video calls, intercom via “drop in”)

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## What's Available? What Are the Benefits?

### “Lighting”: smart bulbs, plugs, switches



- What Can They Do? --- **Independence, Accessibility**

- **Bulbs**
  - On/off
  - Dim/brighten
  - (Color)
- **Plugs:** lamps, light strings, fans, ...
  - On/off
- **Switches:** recessed/overhead lights, ceiling fans
  - On/off
  - (Dim/brighten)
- Set schedule
- Integrate with other devices
- Various user interfaces: phone/tablet, smart speaker

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## What's Available? What Are the Benefits?

### Smart Locks, Video Doorbell



- What Can They Do? --- **Security**

- Locks
  - Deadbolt lock
  - (Auto lock)
  - (Keypad entry)
  - (Geofence) - August
  - (Biometric entry) - August
  - (Key backup)
  - (Door ajar alert)
  - Schedule
  - Integrate with other devices
  - Various user interfaces
  - Guest codes
  - Audit trail
- Doorbell
  - Video intercom
  - Motion detection
  - Remote answer
  - (Recording)
  - (Alexa enabled)

<https://www.youtube.com/watch?v=lasH-9z1hbE>

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## What's Available? What Are the Benefits?

Sensors: **presence, motion, contact, leak**



Presence: \$20



Motion: \$25-\$60



Leak: \$25-\$40



Contact: \$15-\$45



- What Can They Do? --- **Safety, Security**
  - Presence (arrival)
    - Backpack, belt loop, key chain
  - Motion (presence, fall detection)
    - bedroom, bathroom, basement
  - Contact (arrival, secured access)
    - Doors: entry, patio
    - Windows
  - Leak: washer, under sinks, hot water heater
  - Trigger action
    - Activate device(s)
    - Push notifications, voice alerts

<https://www.youtube.com/watch?v=l7TYppa9V88>

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## What's Available? What Are the Benefits?

Cooking Safety

Temperature sensor: \$50



Motion sensor: \$25-\$60



Stove Shut-off: \$500-\$575



Induction Cooktop (pans): \$1500+

- What Can They Do? --- **Safety**
  - Temperature sensor
    - High/low temp & humidity thresholds; alert & log
  - Motion sensor with temperature
    - Can program alert with temp level AND duration
  - Stove Shutoff
    - Automatically turns range (& cooktop) off after 1-15 min of no kitchen activity
    - Wi-Fi connection to remotely monitor usage
    - Various safety lock levels to disable stove usage
  - Induction cooking

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## What's Available? What Are the Benefits?

### Alternative User Interface: buttons



Buttons: \$20-\$75

- What Can They Do? --- **Independence, Accessibility**
  - Alternative to mobile interface, voice
  - Execute 1 or more routine(s)
    - smart home device automations
  - Provide visual, auditory cues with activation

True *power* of smart home is *device integration* and *customization* for *individual's needs*

<https://www.youtube.com/watch?v=ezoRksOhjxo>

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## Summary

- Smart home devices can enhance **independence, safety, security, and accessibility**
- **Impact** enhanced with **preferred user interface** for operation, custom programming, integration of multiple smart home devices
- If you have interest...
  - Make sure you have strong, robust **internet**.
  - Talk to your case manager, care team, transition skills team.
  - **Start simple, start early**
    - Smart speaker --- work on a few skills to gain confidence
    - Build from there, based on interests, need, & goals

**WisTech: WI AT Program**

<https://www.dhs.wisconsin.gov/wistech/index.htm>

**Independent Living Centers**

<https://www.dhs.wisconsin.gov/disabilities/physical/ilcs-contact.htm>

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Questions?



Demos of Interest?



**Cornerstone Village**

<https://ablelightcornerstonevillage.org/>

**Technology**

<https://ablelight.org/what-we-do/innovation-and-technology/>

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Optional Tech – Time Permitting

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## What's Available? What Are the Benefits?

Miscellaneous: thermostat, CO/smoke detector, humidifier, shades, microwave



Thermostats: \$100+



Humidifier: \$60+



CO/Smoke Detector: \$119

Amazon Microwave: \$75



Blinds: \$70+



- What Can They Do? --- **Independence, Safety, Accessibility**
  - Thermostat, humidifier, blinds
    - Program, schedule, integrate with other devices
    - Various user interfaces
    - Remote control
  - CO/smoke detector
    - Alerts, push notifications
    - Motion alerts, night light
  - Microwave: low vision, fine motor impairments

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## What's Available? What Are the Benefits?

Health: medication dispenser, AI toothbrush, bubble tube/lava lamp

Dose Health (Dose Flip): \$60/mo



Oral B iO Toothbrush:  
\$150-\$300



Bubble tube, Lava Lamp: \$30+



- What Can They Do? --- **Independence, Health**
  - Medication dispenser
    - Secure tray(s): 7, 14 compartments
    - Audible, visual, text, email reminders
    - Compliance tracking
  - Smart toothbrush
    - Real-time feedback
    - Brushing, gum pressure, duration report
    - Brush head change reminder
  - Bubble tube, lava lamp
    - Calming: visual, auditory stimuli

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