

## NEW ALEXA SERVICE HELPS KEEP SENIORS FROM FALLING AT NIGHT

### Christian Care Installs Solution to Make Nighttime Trips to Bathroom Safer

**Disclaimer: For visioning purposes only, document may not reflect current state of project**

**(September 1, 2020 - Mesa, Arizona)** Fellowship Square Mesa and Mesa Chamber of Commerce announced today the launch of a new solution designed to help prevent people over 65 years of age from falling at night. Using Amazon's Alexa and a combination of sensors and lighting, Fellowship Square's Mesa campus has made the solution available to all 350 residents. According to the National Council on Aging, 25% of seniors over 65 years of age fall each year, and 20% of falls happen at home at night. Fellowship Square Mesa is using the new solution to help residents stay safe, be more confident, and have a better quality of life.

"Keeping our residents safe and healthy is a top priority for all Christian Care facilities. Falls are the leading cause of injury-related death for people over 65 years of age and something we are committed to reducing," said Alen Hieb, CEO of Christian Care. "This new technology has the potential to significantly reduce the number of falls, injuries, and deaths for seniors in our community. We look forward to sharing these solutions with seniors around the world."

The Center for Disease Control research indicates that 1 in 4 seniors fall each year, equaling twenty-nine million seniors fall annually. Seven million require treatment, and three million require visits to the emergency room. Falls cost over \$50 billion each year, with 75% covered by Medicare and Medicaid. Even small reductions in senior falls can translate into significant impacts for loss of quality of life and reduction in expenses. For senior living centers, focusing on reducing falls at night when seniors get up for water or a trip to the bathroom is a good place to start with a controlled environment, replicable use cases and measurable impact.

"I am so afraid of falling. Maybe more afraid of that than anything. I've seen so many friends hurt, and I don't want it to happen to me. Sometimes I don't take my pills at night or drink water so won't have to get up and go," said Louis Ruggiero, resident of Fellowship Square Mesa. "This new solution has given me confidence when I get up that I am aware of my surroundings and can avoid falling. And I can still be independent and not have to ask for help."

The Fellowship Square Mesa solution is easy for seniors to use and customize to their lifestyle. When a user starts to get out of bed, a sensor tells Alexa to turn on the lights at a low level to reduce disorientation and allow people to see. Alexa also engages the user in conversation and asks them to wait a couple of seconds before standing up, which can prevent dizziness and loss of balance if done quickly. Fellowship Square Mesa staff helps with the installation and teaches residents how to use Alexa and customize the voice, light levels, and system sensitivity. The Alexa can also be used to alert staff if there is a problem, turn on lights, adjust the temperature, and other functions as desired. All of it geared to be as simple as possible and make it easy for seniors to feel safer and more confident. The system is fully HIPAA compliant and users control all data to ensure privacy.

For more information, please visit Fellowship Square at [fsq-mesa.org/alexa](https://fsq-mesa.org/alexa) or read about the project at the ASU CIC website - [smartchallenges.asu.edu](https://smartchallenges.asu.edu). Senior communities and others interested in exploring

the fall prevention solution can access the playbook with equipment lists, installation instruction guide, information materials for residents and the guidance for programming Alexa.

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## **REDUCING SENIOR FALLS – FREQUENTLY ASKED QUESTIONS (FAQ)**

### **Internal**

#### 1. How does the system work?

The Alexa fall prevention skill activates when motion is detected in the room at night. For example, when someone is getting out of bed. When motion is detected, Alexa will communicate with the senior to encourage them to sit for about 10 seconds. During this time Alexa will also activate lighting at 20 percent allowing the senior to become orientated and allowing eyes time to adjust and view the pathway to the bathroom.

#### 2. What will be the opt-in policy?

Residents will not be required to use the system and will be in control of the configuration and any data collected. An opt-in will be given to allow caregiving staff to know how often a person is getting up during the night. This will help caregivers know if other issues (an example would be a UTI) are playing a factor in the senior's health.

#### 3. How effective will the system be for preventing falls?

We are committed to researching the system's effectiveness. There is no guarantee that the system will prevent a fall from happening. Assisting a senior to orient and gain awareness of their surroundings could reduce falls. Slowing down the urgency to get out of bed allows blood pressure to normalize and reduce lightheadedness which will also help reduce seniors falls. The system will be deployed in collaboration with an evaluation to review and assess impact.

#### 4. How will we set it up and maintain it?

Staff at Fellowship Square will help set up and maintain the system, including supporting questions senior residents and their families have about how to use it effectively. The system can be programmed to say "goodnight" and "good morning" when residents step on the pad so they know it is working.

#### 5. Will the system have monitoring and/or notification capacity?

If residents opt-in, notifications can be sent to caregiving staff via email to alert how often a senior is getting up during the night to help with other health concerns. The system also has configuration to engage the resident in conversation to prompt support options.

#### 6. Is the system configurable?

The system will have a default configuration and setup. Senior residents can customize the Alexa skill's voice type, volume, as well as the light location, brightness and connection to other devices.

#### 7. Will it collect any data, where does that data live, and who owns it?

Data can include the number of times a resident gets out of bed, the time and the duration of the trips. Data collected will be given to caregivers/staff/families for personal health records.

8. How will this impact privacy?

The system is voluntary. Residents can opt-out anytime. All data will be controlled by the residents and if allowed, only accessible by Fellowship Square and be in compliance with HIPAA regulations.

9. What data will it collect, who has access, where will it be stored, etc?

The system does not need personal data other than the configurations selected by the customer. Customers can opt in to allow the system to collect data for use by Fellowship Square - like how many times customers get up, how long, and at what times. This data can be used to measure system impact and effectiveness. If customers do not want data collected they can opt-out of sharing personal data generated by the system.

10. Is it compliant with HIPAA and other regulations?

Yes, data will be compliant with HIPAA regulations. Fellowship Square's parent organization Christian Care will review and ensure compliance in both the design and operations of the system.

11. Who will conduct the HIPAA review and compliance?

Fellowship Square's parent company Christian Care will engage its compliance team to review and advise on the system design and operations to ensure HIPAA compliance. AWS will review and provide a well architected review to ensure the quality and security of the system.

12. What are the costs to install and operate?

The cost of the equipment is still TBD. The equipment is expected to include an Alexa, a motion or pressure sensor, and lighting controls. The operating costs should be minimal. All costs will be assumed by Fellowship Square. Residents who already have an Alexa installed can use it with the system.

13. How long will the equipment last?

It is unclear what will be the effective life of the system components. One part of the project will be to determine how long the system can work.

14. What is the liability? Are there protections that can be worked in?

There is no guarantee that the system will prevent a fall or injury. Customers will need to sign a liability waiver.

15. Who and how will we analyze and act on the information?

Fellowship Square will have control over any use or analysis of the data if any such activity is desired. AWS will have no access to personal data.

16. Will this impact union/labor contracts or practices?

Fellowship Square will ask their labor advisors to review any impact on contract and labor contracts and practices. A possible function could be to alert the Fellowship Square staff. If a possible function is a concern, Fellowship Square can determine if it wants that functionality included in the system.

17. How will nurses, staff, caregivers, families interact/use/monitor the system?

The use of smart, connected devices for fall prevention is a new space. The ways in which staff, researchers, and customers can use the devices and the data is not yet known. Fellowship Square will have control, along with the customers on how the system will be used. Caregivers will be able to use the data to assess and improve delivery of services. A weekly report of data would be nice.

18. Will it auto-update or require maintenance?

The system will require some initial and ongoing maintenance that is TBD depending on the final design.

19. Does the system require wifi, or other Internet connection, and how robust?

Yes, the system will require an Internet connection. Alexa requires at least 512kbs to operate. It is not yet clear what the total bandwidth requirements for the complete system will be.

20. Will the systems have an AI component? What will it do?

No. The initial prototype will not include an AI component. It is possible that future AI functionality could be included if desired. A possible AI component could be predictive analytics to understand who falls and why and try to predict who might fall under certain circumstances and use that information to mitigate falls.

### **External FAQ for Residents and Families**

1. What equipment do I need for this system to work?

The system includes an Alexa digital assistant, a movement sensor and lighting controls. This equipment will be provided by Fellowship Square. It's possible that other equipment might be included like smart thermostats that could reduce the number of times residents need to get out of bed.

2. How do I set it up? Is it hard?

The system set up has two parts - the installation of the equipment (sensors, light controls, and an Alexa) and the system personalization (voice, volume, light levels, etc). Fellowship Square staff will install the equipment and support the personalization of the system to help residents. Residents can set up the systems themselves if they want using easy to follow instructions and video content.

3. Does the system collect any of my personal data?

The system does not need personal data other than the configurations selected by the customer. Customers can opt in to allow the system to collect data for use by Fellowship Square - like how many times customers get up, how long, and at what times. This data can be used to measure system impact and effectiveness. If customers do not want data collected they can opt-out. There is also functionality allowing customers to configure data, see data and delete data. The system will be in compliance with all applicable laws and regulations like HIPAA.

4. If so, who has access to the data?

Customers will have the ability to control what data is collected and who has access. Fellowship Square will only have access to data authorized to it by customers.

5. Where does the data live?

All data will live in the cloud and be controlled by Fellowship Square. AWS will not have any access to customer data either raw or aggregated.

6. What is the accuracy of the system - does it always know when I get up?

Fellowship Square is the initial Proof of Concept and will be used to determine accuracy and refine effectiveness. There is no guarantee that this system will prevent falls.

7. What is the supporting research and science to explain why the solution will work?

While there is no guarantee that this solution will prevent falls, we are hopeful about the potential impact of the use of smart, connected devices to prevent falls and will assess research to better understand the impact of this solution. There is extensive research on senior falls. It is the number one cause of death for people over 65. One in four seniors fall each year. 20% of falls occur at home between the hours of 9PM and 7AM and primarily when people get out of bed to go to the restroom, get water, adjust temperatures and other needs. This solution is designed to address the 20% of people who get up at night and addresses challenges that contribute to falls including orientation, low blood pressure and light levels.

8. How adjustable are the system settings? Voice, lights, sensitivity.

The system has several customizable settings, including the type of voice, volume level, light level, color, sensitivity, and location of the sensors.

9. Where can I get the system?

Currently the system is only available for Fellowship Square residents.

10. Does it require an application or computer to set up?

While the application requires a computer to configure and customize, Fellowship Square staff will set up for residents so no computer is needed. The system can be operated with Alexa.

11. Do I have to pay for it and if so – how much?

The system is free for Fellowship Square residents to acquire and operate.