Prevent Falls Through AI Augmented Fall Prevention System

The Challenge - Reducing Patient Falls

Patient falls negatively impact value-based care through adverse patient outcomes and increasing hospital operating and litigation expenses.

As reported by AHRQ:

- Annually between 700,000 and 1 million patients fall and over 11,000 die.

- The hospital expense per fall averages $6,698.

Plus, post-falls injury care is not reimbursed by Medicare or private insurers.

KnowFalls Product Offerings

To prevent falls, KnowFalls offers hospitals a:

- Virtual Patient Observation System (VPO) and

- Artificial Intelligence Fall Prevention System (AI-System).

The VPO provides hospitals with the opportunity to cost effectively replace patient sitters while continuing to have a set of eyes and ears on the patient. The remote observer can monitor the patient and engage in 2-way communication, stop or delay fall-prone activity and, when necessary, notify the attending nurse/CNA to intervene.
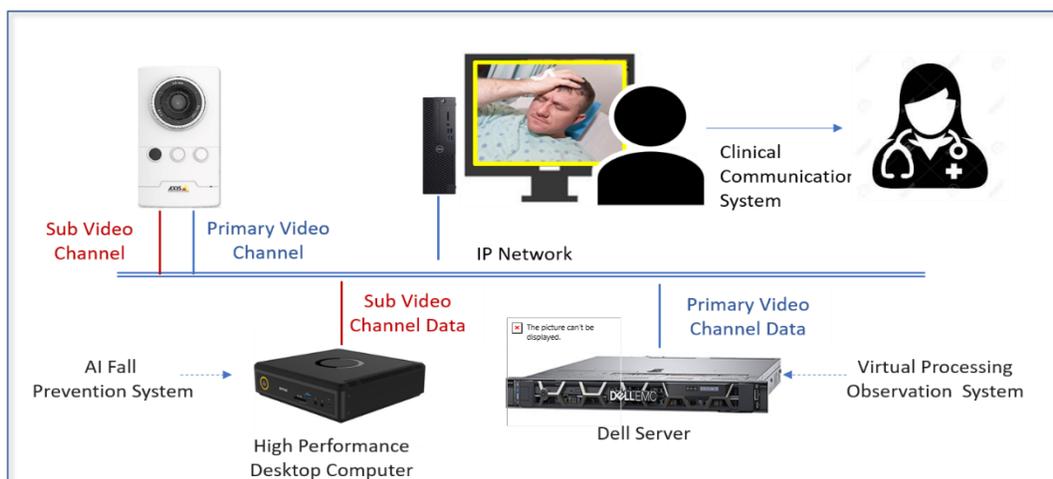
The AI-System also remotely processes video from a camera within the patient's room and:

- **Identifies** automatically the bed location and patient bed behavior that precedes a bed exit attempt.

- **Alerts** the healthcare team, who confirms the activity and alert.

- **Prevents** falls by providing the patient observer time to verbally engage the patient to delay or stop the bed-exit attempt and, if needed, having the attending nurse or CNA to intervene.

Automated Early Alert Generation

The AI-System generates two types of alerts…

- Yellow Alerts identifying the earliest behavior preceding a bed exit attempt. Examples include a patient shaking bed rails or violently pushing off a food tray.

Fall Prevention
The KnowFalls AI-System processes a camera's sub-video channel, locates the patient bed and identifies the earliest behavior indicating a bed exit attempt. Alerts are generated to the patient observer to engage the patient and to the attending nurse to intervene

- Red Alerts indicate the patient is undertaking or has performed a bed exit. An example is a patient's leg moving off the bed.

Improves Healthcare Team Performance

There is no need for patient observers to generate and continually update virtual bed rails or adjust camera views. The AI model automatically recognizes the bed from any camera angle and six times a second monitors and identifies the patient's activities within the bed.

By providing the care team with earlier and reliable detection of bed exit behavior, the AI System in addition to preventing falls, reduces alarm fatigue, saves nursing resources and makes caregiving safer.

The AI-System Interfaces to any VPO

The KnowFalls AI-System can be interfaced to any virtual patient observations system. The AI-System runs on a machine learning or gaming computer system. It acquires the video stream from the installed camera within the patient's room, processes the data and generates to any VPO an alert (web service message).

AI Decision Making Continually Improves

The performance of the AI-System continually improves. The AI Model learns just as a human learns. Through intelligent decision making, hospitals can make the healthcare teams job simpler and more productive.

Getting Started

With little setup, the AI-System will automatically monitor at-risk patients and prevent falls. As compared to less sophisticated systems, there is no requirement within the camera's field of view to mask out areas, designate areas of interest for monitoring, or be concerned with background activities.

To evaluate the AI-System with an existing VPO, KnowFalls offers a Starter AI-System. It supports monitoring eight cameras/patients. The price of the software AI-System and processor is $19,995, plus an interfacing expense for cameras currently not supported.

KnowFalls also provides a combined Starter VPO and AI System. It supports monitoring eight patients. The system includes eight cameras, all computer systems and monitors, plus the KnowFalls VPO and AI-System for $29,995,

For more information contact a KnowFalls application specialists at …

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