2024 Predictions: Three Applications for AI in Home Healthcare

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Business is booming in the healthcare generative AI market. The sector is projected to reach a staggering $22 billion by 2032 — enabling technology providers, health systems, payers and others in the ecosystem to develop game-changing capabilities that are reshaping the field.

Frankly, the timing couldn't be better for the home healthcare sector, an area that is particularly ripe for transformation. Variable schedules, provider shortages and a vulnerable aging population make managing logistics and providing care uniquely complex. In the face of these challenges, AI offers a compelling solution to streamline back-end tasks and enhance the patient-provider relationship.

So, while 2023 may have been the year of AI awareness, 2024 is set to be the year of AI advancement and widespread adoption. Although I'm encouraged by what we've already achieved, I'm more excited about the coming benefits that adoption at scale will provide both home care operators and patients.

Specifically, I envision AI revolutionizing the home healthcare industry in several important ways in 2024:

1. Improving personalization at scale

With nearly 3 million home healthcare patients across the nation, personalizing their individual experiences is a time-consuming and complex undertaking. However, AI excels at this task. It's capable of analyzing vast amounts of data to identify individual preferences, behaviors, and patterns much more quickly and accurately than human workers.

Expect certain applications that are already in use to achieve more widespread adoption by home healthcare agencies in the next year, including:

- **Streamlining care plan creation**: With AI, providers can quickly generate personalized care plans based on the patient intake call, health records, and knowledge of similar patient profiles. AI-generated plans may include granular details like care reminders, medication schedules, and even activity recommendations.

- **Optimizing care matching**: AI handles the complex process of matching care providers with patients based on factors like scheduling needs, travel times, personality and skills, helping create more effective provider-patient assignments.
- **Coaching providers**: Using call recordings and transcripts, AI can offer recommendations for care providers. This could include general areas of improvement (e.g., areas where additional training is needed) as well as recommendations that are specific to the patient-provider relationship (e.g., future conversation topics).

2. Supporting task prioritization

By 2025, the U.S. is expected to face a shortage of over 400,000 home health aides. As the aging population continues to increase, AI offers home healthcare providers the ability to alleviate time-consuming tasks, streamline provider workflows, and reduce costs. One such application includes task prioritization and reorganization to help providers and administrators navigate an overwhelming list of to-dos. This use case is currently in development and will hopefully make its way into home healthcare in 2024:

- **Optimizing task management**: AI can analyze patient needs, biometric data, urgency and potential risks to create a daily list of to-dos for providers. Consider a patient who requires immediate attention due to a sudden change in their condition. AI can help restructure a provider's daily schedule and find coverage if necessary, to ensure the patient receives prompt care. This capability isn't just helpful for providers; it can also offer benefits for operators and desk-based administrative health workers.
- **Generating communications**: While AI is already widely used to generate communications, this capability becomes even more valuable when used alongside task prioritization. If a provider needs to rearrange the order in which they visit patients, AI can provide a script to quickly communicate with patients. In the event of a provider change. It can also communicate thorough notes on the patient's needs to substitute providers.

3. Enabling detection and prevention

Each year, 1 out of 4 older adults is expected to suffer a fall. In 2020, falls resulted in a total of 3 million emergency department visits and 36,000 deaths. AI paired with Internet of Things (IoT) devices offers a meaningful

solution to address, mitigate, and even prevent the impact of falls on the aging population.

Here are a few ways AI is set to support more preventative healthcare efforts:

- **Enabling real-time detection**: AI-powered IoT sensors and biometric devices are capable of monitoring patient activity patterns and detecting falls in real time. When a fall is detected, home healthcare agencies could receive immediate alerts, enabling timely and potentially life-saving intervention. In addition to falls, AI could help flag other health-related changes more proactively, like the onset of a heart attack.
- **Providing predictive care**: AI employs predictive analytics, meaning it's able to learn from historical data and current trends to forecast future outcomes. For home healthcare, this could allow care providers to anticipate changes in a patient's health — like if there was a high likelihood that a patient would develop high blood pressure — and adjust treatment plans accordingly to support the delivery of preventative care.

The future of healthcare looks bright

AI is advancing at a rapid rate, and its potential remains largely untapped. From personalization to prioritization to prediction, there is so much that AI can do to support operational efficiency, cost savings and patient health — and we've only scratched the surface.

I'm excited to see how AI's transformative capabilities will improve home healthcare agencies' workflows and support better patient outcomes in 2024, and I look forward to the advancements we have yet to even imagine in the years to come.