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Sompo Holdings, Inc.

Sompo Care Inc.

Combining Digital Technology and its Expertise to Support Unchanging Lifestyles

～Transforming to Predictive Nursing Care～

Sompo Holdings, Inc. (Group CEO and President: Kengo Sakurada; hereinafter, "Sompo Holdings") and Sompo Care Inc. (Director, Representative Chief Operating Officer: Takamitsu Washimi; hereinafter, "Sompo Care"), which carries out the nursing care business, are engaging in support for users' independence, preventing the need for further nursing care and improving Quality of Life (QOL) through collection and analysis of real data* in the nursing care domain based on proactive use of the latest technology.

Recently, Sompo Holdings started trial operations at homes with nursing care services operated by Sompo Care of an app developed to propose effective support and other measures to maintain or improve users' nursing care by predicting their state three months in advance by using an AI model.

By transforming from Sompo Holdings' conventional "nursing care responding to the existing state of health" to "predictive nursing care," it will achieve a world beneficial for everyone: users, employees and management.

* Data acquired from activities by individuals and companies in the real world through sensors and other means (health data, etc.)

1. Background and purpose

Conventionally, Sompo Care has devised the ideal solutions and methods for individual users' needs by collaborating with specialists from various fields, such as front-line nursing care employees, physiotherapists and nutritionists to determine support methods, nutrition measures and more.

To contribute further to the prevention of the need for further nursing care and to extend healthy life expectancy, the belief was that it would be ideal to build a system to prevent the manifestation of physical changes such as reduced volume of eating and physical activity. But there are limits to how many preventative measures can be carried out while anticipating changes in someone's state of health given the state of all users needs to be ascertained in detail, and that relies on employees' experience, intuition and powers of observation.

With an aim to provide future nursing care that predicts and prevents deterioration in the state of users' nursing care, Sompo Holdings analyzed various health care data accumulated in the operational system until now and created a visualized score of users' nursing care status. By analyzing trends in that data, Sompo Holdings developed the "Independence Support App" (tentative name) to predict users' state of health three months in advance.

2. The "Independence Support App" (tentative name)

(1) Overview

The "Independence Support App" (tentative name) predicts the state of nursing care (worse/same/better) of individual users three months in advance. For example, in the case of a prediction of deteriorating health, it also has functions that will indicate "what is going to deteriorate, what will happen when it deteriorates, and what preventative measures can be effective against deterioration.

Specifically, in the event of predicting a deteriorating condition in three months' time, the app will suggest, for example, that excretory or nutritional functions will deteriorate. This prediction also indicates changes in living conditions, such as the need to provide support to do the things that users have been able to do for themselves until now.

In addition, the app not only predicts deterioration in the state of health, but can also offer general proposals to prevent deterioration, such as "think about supplementing nutrition to avoid a deteriorating nutritional condition" or "let's review the guiding line to the restroom."

(2) Start of the "Independence Support Project" at Sampo Care

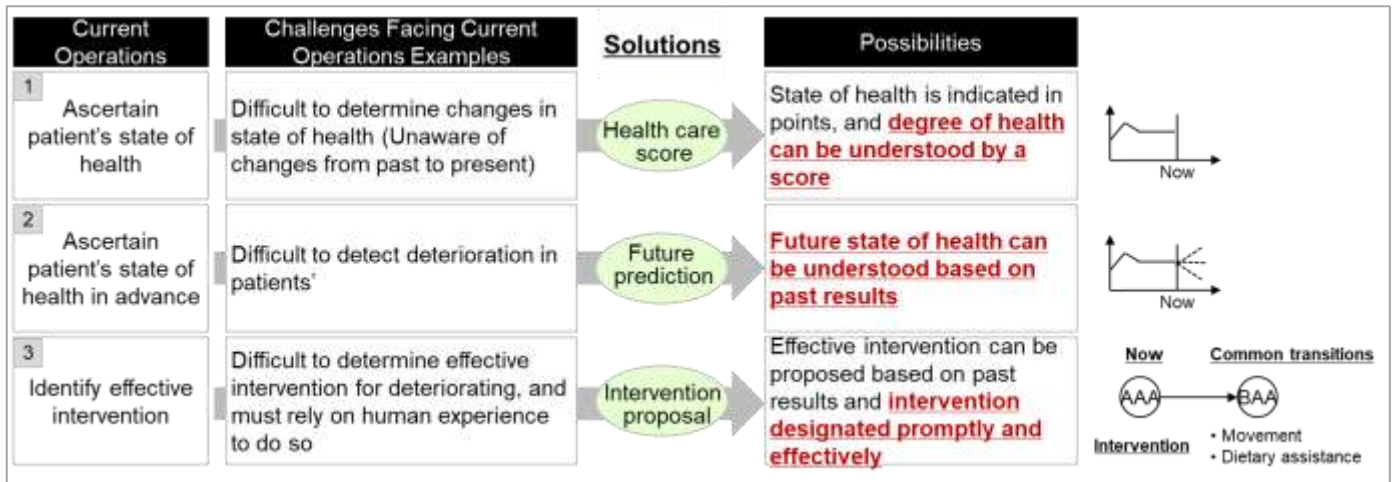
Currently, the "Independence Support Project" is being carried out at two Sampo Care homes with nursing care services as a trial for users to get a sense of the accuracy of predictions and validity of proposals made by the app. Sampo Care specialists such as physiotherapists and nutritionists will propose independence support measures with individuality in response to the app proposals. In such cases, it's important to know and respect the sense of values each individual has about their life, such as the customs they cherish, so they can know the type of lifestyle sought by the patient. The aim is to use data to support users in being able to continue the lifestyles they have led up until now. Sampo Holdings will bring about a transformation to "predictive nursing care" taking action against predicted changes rather than just involving specialists once a condition has changed.

3. Development of "predictions" in the "Independence Support App" (tentative name)

Sampo Care accumulates tens of thousands of units of health care data from users such as assessment, support and dietary volume data.

These tens of thousands of units of health care data were first converted into a score that expressed the nursing care condition of each and every patient. Transition of the scores was then analyzed in three-month units to determine if they had risen, stayed around the same, or fallen. Different types of variables such as support details and changes in support volume were also calculated in addition to transitions, and predictive logic based on big data from the past to the present was developed to determine the causes of deterioration.

As a result of repeated trial and error over a period of about two years, Sampo Holdings came up with a predictive model capable of lowering nursing care condition scores three months in advance.



【Made possible by introducing the “Independence Support App” (tentative name)】

4. The aim of transforming to “predictive nursing care”

By transforming to “predictive nursing care” through the introduction of the “Independence Support App” (tentative name), which tracks the transition of a state of health from the past to the present and recommends intervention to prevent deterioration based on previous results, Sampo Holdings will be able to provide services that contribute to supporting independence. Moreover, specialists such as physiotherapists and nutritionists will provide knowledge-based specialist support so that intervention services can be proposed that are suited to each individual. This realizes a world beneficial for all, with users “able to continue living a preferred lifestyle as much as possible by preventing a deterioration in health,” employees “alleviated of the burdens placed on responding to deteriorating states of health and given greater motivation to implement nursing care personalized for individual users,” and management “stabilizing management by alleviating employees’ burdens and preventing turnover.”

5. Outlook

Firstly, by moving ahead on the Independence Support Project being conducted at two Sampo Care homes with nursing care services, focus can be placed on support enabling continuation of the patient’s existing lifestyle as much as possible. Later, the scope of the initiative will be broadened and advanced in series to roll out in other Sampo Care homes with nursing care services. Then, by expanding the initiative to other nursing care providers, the aim is to expand on the world that is beneficial for all involved.

Sampo Holdings and Sampo Care will continue to advance utilization of real data in the nursing care domain to help in supporting senior citizens to continue living in the way they want to.