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## 14. Epilogue

## Beyond telemedicine, recognize remote care!

The aging of societies continues to advance worldwide. Japan in particular is the world's leading aging society.

Because development of medical science and service results in an increase in the elderly population, care service for older persons should be considered simultaneously with medical service. This can be applied to telecommunication as well. When we develop telemedicine, we should seek out the potential for remote care. However, is remote care really possible?

To care for older people with decreased physical or cognitive function is to watch, help, communicate, and comfort patients. Better care makes their daily life happier. Advanced care methodology can help to improve the remainder of their lives, and efficient care decreases the burden. Reducing the cost of care facilitates access by a larger number of older people to proper care.

As described in the definition of care as described above (watch, help, communicate and comfort patients), to "help patients", care robots, for instance, may be needed to move, feed, or bathe patients. Recently, many researchers have studied various types of care robots operated by care providers on site, and this type of robot will appear on the market soon. However, development of care robots that can be operated safely from a remote location is likely to be difficult. We can provide the services described below from a remote area:

- watch patients (substitution of e.g., their eyes, ears, nose and skin)
- communicate with patients (e.g., converse with patients and inform them of the time and dangers, and let patients participate in social activities)
- comfort patients (e.g., amuse patients with visual or hearing sensations, or with pet robots)

We can apply matured technology to provide these. For instance, "watch them" can be achieved by sensor networking with IoT technologies. When we can have huge amount of sensor data, we can analyze by machine learning and efficiently improve care service.

Let's promote studies about remote care, paralleled with activities of telemedicine, and let's share experiences, technologies and knowledge to produce better care service beyond borders. Promotion of telemedicine, without consideration about remote care, is inconsistent because it should increase elders who face difficulties. Moreover, I and you (readers) also will enter care receivers by high possibilities in future.

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