

## **<Moonshot Goal #7>**

“Realization of sustainable care systems to overcome major diseases by 2040, for enjoying one’s life with relief and release from health concerns until 100 years old”

### **<Target of Moonshot Goal>**

**[Realization of a society where everyone can prevent diseases spontaneously in daily life]**

- Establish infrastructure to maintain good mental and physical health by developing technologies, in order to stay healthy and prevent the onset and aggravation of diseases by regulation of immune systems or sleep, etc., and to visualize individual physical and mental state in daily life and urge people to voluntarily take healthy maintenance actions most suitable for them by 2040.
- Develop technologies to monitor all living body trends with lower physical and mental load by 2030.

**[Realization of medical networks accessible for anyone from anywhere in the world]**

- Establish a medical network to provide the same level of medical care as a normal time regardless of region and even upon disasters and emergencies by developing diagnostic and treatment devices for simple tests and treatments at home, etc. and diagnosis- and treatment-free technologies for part of chronic diseases by 2040. In addition, develop methods for radical treatment and precision medicine for diseases such as cancer and dementia by substantially reducing the development period of drugs and medical devices, etc. through establishment of data science and evaluation systems by 2040.
- Establish a technology platform to provide quality medical and nursing care suitable for each individual appropriately even with less providers by developing compact, speedy and high-sensitivity diagnostic and treatment devices as well as technologies to further enhance doctors’ medical opinion and diagnostic capability by 2030.

**[Realization of drastic improvement of QoL without feeling load (realization of an inclusive society without health disparity)]**

- Establish a social infrastructure to enable self-reliant life at home without depending on nursing care by developing such technologies as the recovery of body function with rehabilitation without feeling load, normalization of ailing biocontrol systems, regeneration or substitution of weakened organs and so forth by 2040.
- Develop technologies to improve body function through load-reducing

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rehabilitation and support self-reliant life at home and to improve ailing living biocontrol systems by 2030.

\* For attaining the goal, it is important to have various research approaches which cross over between basic research and practical research or between medical research and research of other fields and the adoption of the latest knowledge.

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[Reference]

### <Related Area and Vision>

Area : "Leveraging the Aging Society (Turning the aging society into the innovative and sustainable society by harnessing diversity through techno-social transformation)"

Vision : Society without health concerns: everyone can enjoy life until 100 years old (achievement of well - aging)

### <Background of the goal setting>

- In light of the fact that average life expectancy will continue to grow and the population of 100 years or older will reach 300,000 in 2040, it is necessary to have environments where anyone can enjoy life at any age without health concerns by improving the healthy life expectancy.
- Response to life-style related diseases and diseases due to aging which account most of the diseases have become an issue and initiatives need to be taken for the prevention of life-style related diseases and coexisting with aging and diseases.
- The present preventive healthcare and health promotion have difficulty regarding to behavior change and it is rather hard to persuade indifferent persons who account for 70%.
- While life-style related diseases and the like are easier to control thanks to the progress of medical care and IoT technologies, individual issues which are hard to detect like psychosomatic disorders have become obvious.
- Also, toward 2040, it is assumed that shortage of manpower due to declining

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population and withdrawal of medical and nursing care facilities will become serious problem in provincial areas and access to medical and nursing care will also become more difficult. On the other hand, demand for medical and nursing care will increase explosively in urban areas due to population concentration and there will be increased concern of supply being short. Amid the probability as high as 70% for Nankai Trough Earthquake or Tokyo metropolitan earthquake to occur within 30 years to come, it is imperative to re-establish the access to medical care at the time of disaster.

- In recent years, there are many senior citizens who still want to work, resulting in the increase of their labor-force participation ratio, which is changing the image of the elderly. On the other hand, there are also people who cannot cope in mind and body with the change of life stage due to declined QoL by aging and may lose a purpose in life and give up participation in society. There is increasing necessity for establishing social systems enabling them to participate.

### **<Society which the Moonshot aims for>**

- Each and every one can live a healthy life of one's own accord, predicting the future health conditions, and at the same time, mechanisms to lead to health are embedded in every line of daily life.
- Regardless of the skill levels and number of medical and nursing caregivers, secure and quality medical and nursing care can be provided and accessed no matter where one lives and even upon disaster or emergencies.
- Even when faced with various changes in life stage with ailing mind and body function, each and every person can be empowered by technologies and social infrastructure without falling ill, and then their capabilities are unlocked.