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Development and Promotion of Nursing-Care Robots

Japan Robot Revolution Policy and its Impact on the Application of Robots in Elderly Care

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Today's Topics

- Development and Promotion of Nursing-Care Robots

  from the program of Health and Welfare Bureau of Elderly, MHLW

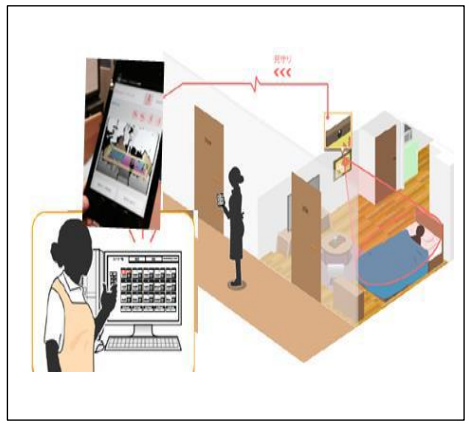
- Issues surrounding Nursing-Care Robots

What is a Nursing-Care Robots ?

<Definition>

1. It is an intelligent mechanical system equipped with three component technologies:
   - ●sensors: to detect information
   - ●intelligence/control: to decide
   - ●drive: to operate
2. Such nursing-care equipment is called as “Nursing-Care Robots” where robot technology is applied, being helpful for support independence of elderly and reduction of nursing-care burden of care-worker and family.

example

Lifting assist	Mobility assist	Toilet assist	Monitoring systems
			
power assist (wearable)	walk assist (for outing)	automatic excretion treatment device	monitoring sensor (for persons with dementia)

Support Project for Practical Application of Welfare Equipment & Nursing-Care Robots

【Actual initiatives in FY2016】

Establishment of consultation counter

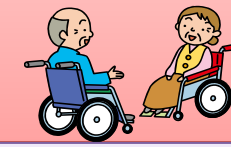
Set up consultation counters concerning the utilization & development of long-term care robots

- Consult via telephone
- Consult via internet website

Creation of field demonstration

List cooperating facilities/offices and connect them to demonstrations depending on developing stages

- Call for participants via internet website
- Give training to cooperating facilities/offices

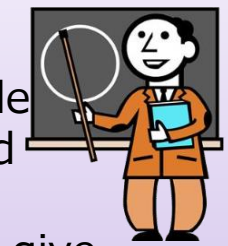


Implementation of monitoring study

Implement monitoring study about prototypes at experimental stage, mainly in cooperating facilities/offices

- Exchange of opinions with nursing staff
- Provide advice support by professionals
- Hold Monitor survey at long-term care field

Dissemination & Enlightenment



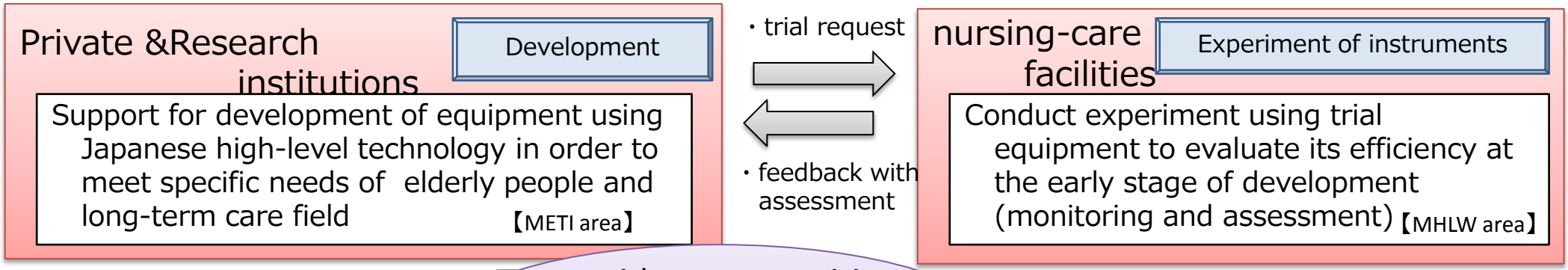
Promote public awareness to provide required knowledge to all concerned

- Prepare pamphlets
- Display long-term care robots and give users experience related to the robots
- Give training concerning the utilization of long-term care robots, and so on

Others

- Research the needs of long-term care field
- Provide a forum for exchange of opinions between long-term care field and developing field, and so on

Development Assistance for Nursing-care Robots



To provide opportunities to exchange opinions between development side and user side（※）

※e.g. To set up advisory centers, arrange experiment opportunities (including info. about cooperating institutions for trial) , promotion, providing info-exchange-opportunities

Priority areas in utilization of robotics technology for nursing-care

Support for the development of nursing-care robots that contribute to the enhancement of self-reliance of people requiring nursing care and to a decrease in caregivers' burdens

○ Lifting assist (1)

- Wearable devices using robotics technology to provide power assistance to caregivers

○ Lifting assist (2)

- Non-wearable power assist devices using robotics technology to help caregivers' lifting

○ Mobility assist (1)

- Walking assist devices using robotics technology to support elderly citizens walking outdoor and to secure safe carrying of loads

○ Mobility assist (2)

- Walking assist devices using robotics technology to support elderly citizens' indoor mobility and sitting and getting up, including their trips to and from the toilet and holding a position in the toilet

○ Toilet assist

- Position-adjustable toilet using robotics technology for the treatment of excrement

○ Monitoring systems for people with dementia (1)

- Monitoring system platform equipped with sensors and external communication functions using robotics technology, used at nursing-care facilities

○ Monitoring systems for people with dementia (2)

- Platform using robotics technology, used for home care and equipped with a fall detection sensor and external communication function

○ Bathing assist

- Devices using robotics technology to support the sequence of movements for an entry into and exit from the bathtub

Program to Support Practical Applications of Welfare Equipment and Nursing-care Robots

Background

While nursing-care needs are increasingly expanding along with the rapid aging of our population and a consequent increase in elderly citizens in need of nursing care and prolonged nursing-care time periods, situations with families supporting elderly members in need of nursing care are also changing including the trend toward nuclear families and the aging of nursing family members.

On the other hand, in the area of nursing-care services, various problems are pointed out, such as nursing-care workers' back pains. To secure human resources, it is important to develop a better working environment.

Under such circumstances, utilization of Japan's advanced robotics technology is expected to help improve elderly citizens' self-reliance and decrease caregivers' burdens.

Current status and issues

<Opinions from caregiving sites>

- Do not know what devices are available.
- There are no devices that are practically useful for nursing care; do not understand how to utilize devices.
- Concerned about potential accidents.

Mismatch!

<Opinions from developers>

- Do not understand caregiving sites' needs in detail.
- Do not find facilities that cooperate for conducting verification testing.
- Caregivers have a negative image of using devices for nursing care.
- **Developed nursing-care robots but no one uses them.**

Matching support

To develop an environment that encourages the practical applications of nursing-care robots by communicating caregiving sites' needs to developers and having verifications of trial devices conducted at caregiving sites from the early stage of development, thereby promoting the development of highly practical nursing-care robots that adequately meet caregiving sites' needs.

Project for Accelerating Development of Care Robotics

Summary

Accelerate development and promotion of nursing-care robots by providing necessary supports at various stages such as, reflecting practical long-term care needs to contents of development at the planning stage through discussion among developing companies and caregivers in practice; providing advice on prototype under developing; establishing effective care techniques by using developed machines.

Contents

○ Council to promote collaboration and cooperation on needs and seeds

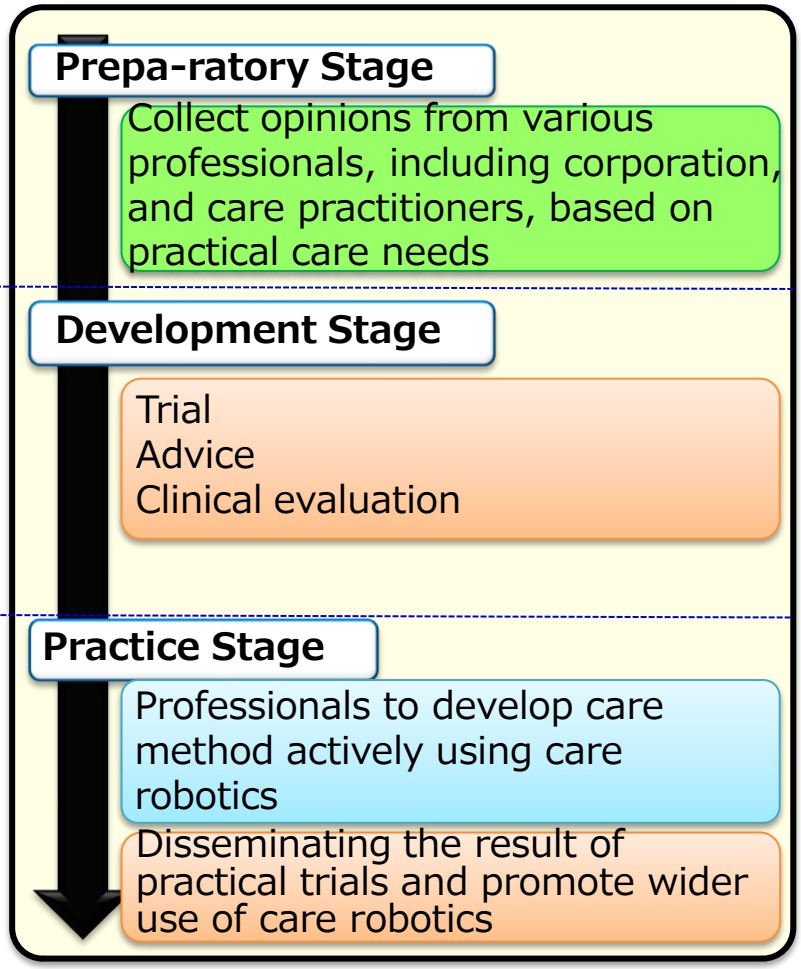
A bridge between developer and users, compiling suggestions where practical care needs are reflected

○ Project to support practical use of technical aids and/or care robotics

Facilitate trials of new products and/or conduct promotional activities for wider use

○ Model Project to Support Care Technology Development Using Care Robotics

Developing improved care method and technics to enhance introduction of nursing-care robots in care practice



Utilization of nursing-care robot and ICT

Existing Program

○ Specifying 5 priority areas for robotic development based on the viewpoint of supporting elderly persons for self-reliance and for reducing care burdens of care providers

Lifting assist

Mobility assist

Toilet assist

Monitoring system

Bathing assist

○ Implementing support for developing robotics as well as promotion for wider use of care robotics in 5 priority areas

For example
matching and monitor survey of discussion to needs and seeds

Support of development

- Provide needs information of nursing care facilities to corporations developing robotics

Promotion of Wider Use

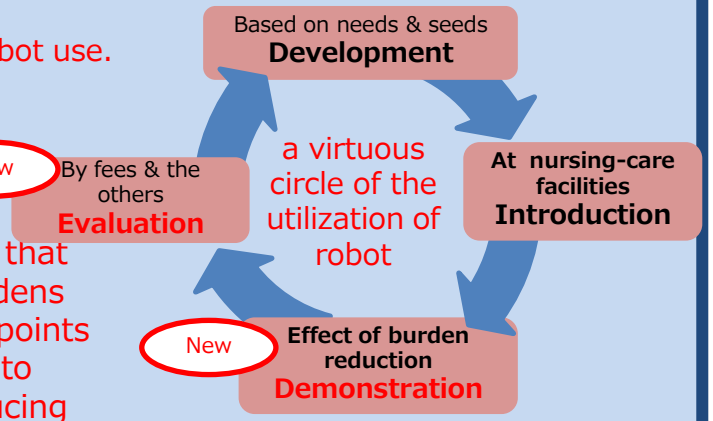
- Support development of robotics by securing funding measures
- Support promotion of wider use by providing trial opportunities

Future Prospects

○ In addition to fortifying direct support for development and wider use of robotics, it aims to realize more advanced robotic products to be developed and introduced to the care facilities, trough effective use of their outcome demonstration and evaluation.
Creation of favorable cycle of robot use.

○ Having good access to care facilities/care providers, MHLW to take initiatives for:

- Outcome verification to prove that care robotics reduce care burdens
- Consider providing additional points to nursing care fee standards to enhance incentives for introducing robotics in care facilities



Process for Future Consideration

A Committee to verify effectiveness of utilizing care robotics at care facilities

- Planning to draft empirical research incorporating previous research result

Utilize prior research data

presentation of plan

report of research data

Experimenting Monitoring Sensor

Empirical research




Nursing-care facilities

introduction | **effect measurement** | **aggregation of data**

company

provide robots | **advice and guidance for use**

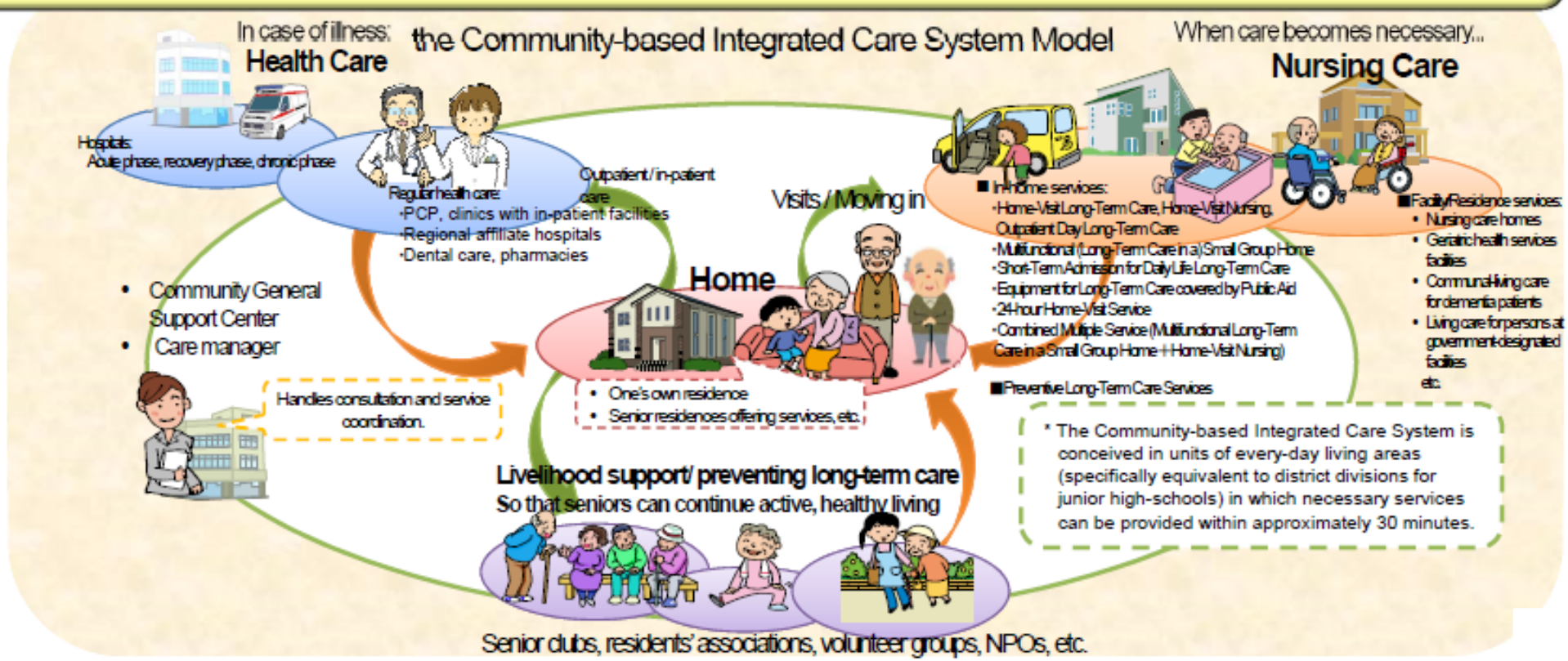
Establishing ‘the Community-based Integrated Care System’

○By 2025 when the baby boomers will become age 75 and above, a structure called ‘the Community-based Integrated Care System’ will be established that comprehensively ensures the provision of health care, nursing care, prevention, housing, and livelihood support. By this, the elderly could live the rest of their lives in their own ways in environments familiar to them, even if they become heavily in need for long-term care.

○As the number of elderly people with dementia is estimated to increase, establishment of the Community-based Integrated Care System is important to support community life of the elderly with dementia.

○The progression status varies place to place; large cities with stable total population and rapidly growing population of over 75, and towns and villages with decrease of total population but gradual increase of population over 75.

○It is necessary for municipalities as insurers of the Long-term Care Insurance System as well as prefectures to establish the Community-based Integrated Care System based on regional autonomy and independence.



Thank you for your attention !

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