

Internet Economy

ICT for Healthcare and Ageing

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Japan as No.1 Super Ageing Society

Under Population Onus

- **Economic impact: Decline in growth potential**
 - Intensifying labor shortage and lower income group
- **Social impact: Increasingly heavy pressure on social security system**
 - **Pension** system demands reform
 - Increase of forecast in **medical expenses**

OECD–APEC–Waseda Conference on Silver(Ageing) ICT in Tokyo, Sept. 2012



400 experts attended in 3 days conference at Waseda University

Remarks by OECD-APEC-Waseda Tokyo Conference co-chaired by Prof.Obi

- **Lack of Standards, Open Platforms and Interoperability**
- **Critical re-evaluation of traditional conceptions of healthcare services**
- **Need of smart connectivity and excellent cybersecurity**
- **E-Health is the key for economic growth**

APECTEL project on ICT applications for People with Special need “Ageing & Disability”

- **Japan and Singapore**, Co-sponsoring by USA, Russia, Thailand, Philippines, Chinese Taipei, Indonesia, China, Korea, and Canada
- Successful APEC workshops –Da Nang (Vietnam 2012),Tokyo (2012), Hawaii (2013) and Singapore (2014) Tokyo (28 September 2015 with OECD)
- 4 factors for Internet Economy = **ICT [Accessibility + Availability+ Affordability + Usability for Ageing and Disability]**

Topics:

- Citizen centric Community driven by Silver friendly PPP
- Resilient healthcare/ ageing community by ICT in APEC region
- “Silver Internet Economy” and “Woman Empowerment”

APECTEL Workshop on **e-Ageing** in Singapore NUS in June 2014

Speech by Dr. Bollard, Executive Director of APEC



The Japan–EU Policy Forum on Silver ICT at EC, Brussels in Dec. 3, 2013

Participants

Japan: 20 experts

- Ministry of MIC, METI
- Waseda University, Tokyo University,
- Toyota, NEC, KDDI, Senior NPO

EU: 25 experts

- European Commission Bureau for Information Society, ECH Alliance, ALL Project, Robot ERA and universities

Topics: EU Horizon 2020 and collaboration between Japan EU on Silver ICT



Prof.Obi speech at in Brussels March 9-10,2015 EU Summit on Innovation/Healthy ageing with 1500 experts



Recommendations

1. Strengthening Comprehensive Approach on Solutions to e-Ageing
2. Innovative Public Digital Welfare Service Delivery for Health and Elder care as PPP of digital government package
3. Broadband applications of Hospitals and Medical institutions for promoting Disease prevention to reduce huge healthcare expenses
4. Establishment of Global Standard for Silver Economy which will grow to 22 Trillion Euro in 2050 in global market
5. Transforming Smart Digital cities by sharp urbanization for Aging society
6. IOT/ M2M applications for creating resilient, secure and safe communities
7. EU-Japan cooperation on promoting silver innovation such as Robot, Mobile 5G, 8K TV, Auto driving car and Telemedicine via Horizon 2020
8. EU-Japan coalition for Setting new agendas for cultivating huge potential ageing Asia population as 2/3 of world silver consumption market

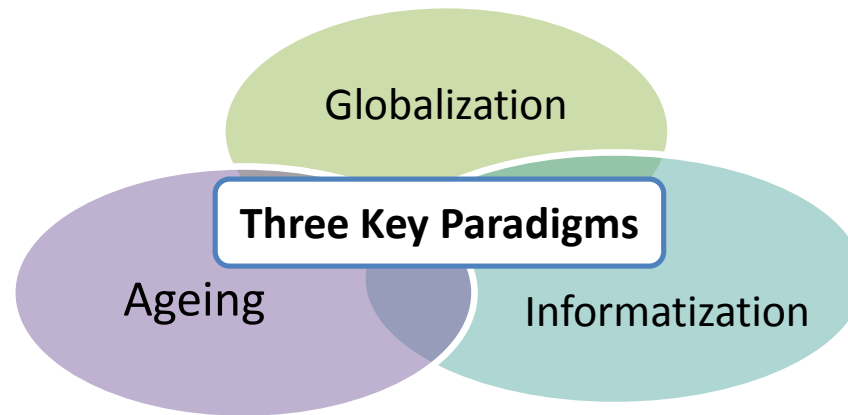


European Summit on Innovation
for Active & Healthy Ageing

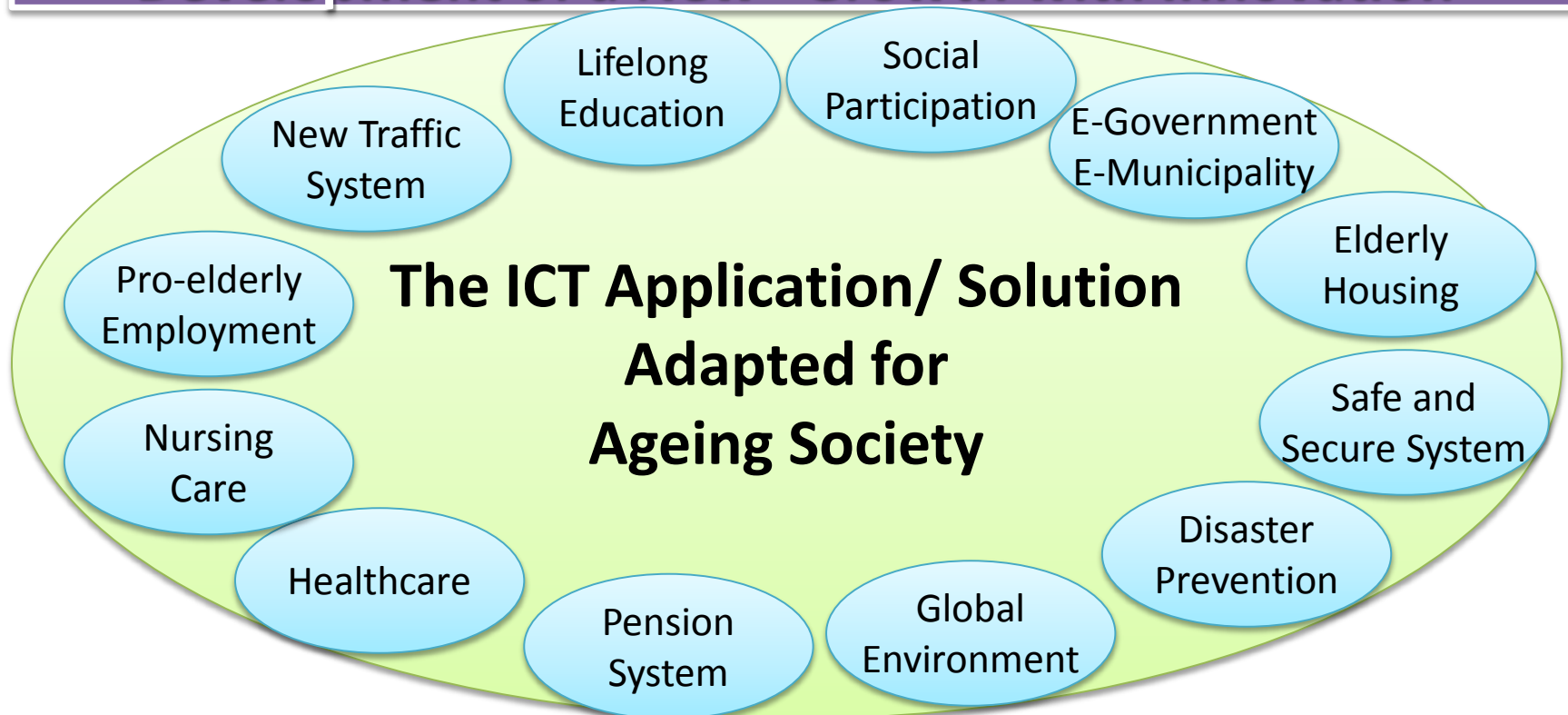
ec.europa.eu/ageing-summit-2015

@EIP_AMA @SilverEcoEU
#AgeingSummit





Advent of the Ageing Society and Development of a New Growth with Innovation



Estimates of the market size of Major Silver ICT sectors in Japan

Estimates by Prof. Obi WASEDA University

ICT expenditures in Major Sectors Billion USD figures
(not for quotation)

e-Government /online services + systems	2.0
Security/Safety services + systems	17
Disaster reduction	2.0
e-Health +medical ICT equipments (PHR, Robot, Telemedicine)	110
Supporting Employment /telework	2.1
ITS (e-mobility) /smart transport	2.7
Life-time education + training	2.0
Smart cities / eco-systems	60
Total amount	197.8 billion USD

MIC Council on Silver ICT (Smart Platina)

VISIONs and PROPOSALs

by Prof. Obi as Deputy Chair

Vision I **Live independently and Enjoy a long and healthy life**

- **Proposal(1)** Establishment of ICT Health (Prevention) Model
- **Proposal(2)** Nationwide Expansion of Medical Information Collaborative Infrastructure
- **Proposal(3)** Creation of Life Support Businesses

Vision II **Work with motivation in life and Participate in society**

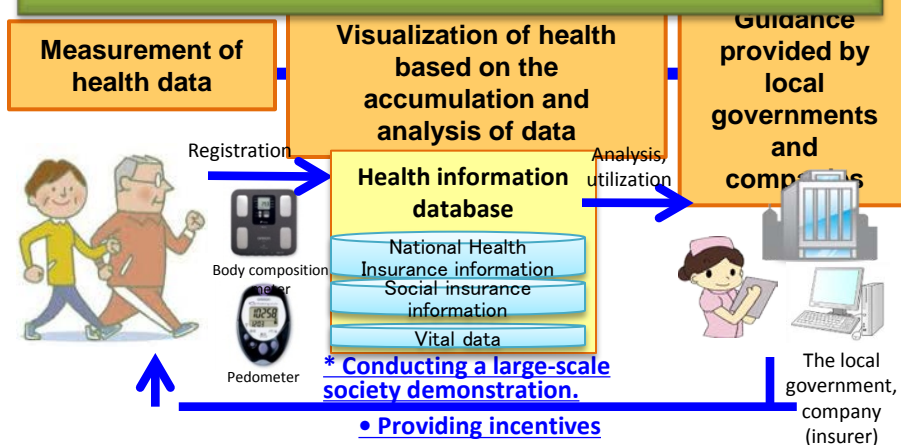
- **Proposal(4)** Improvements in ICT Literacy
- **Proposal(5)** Achievement of New Work Styles
- **Proposal(6)** Development of ICT-employed Robots for Practical Use

Proposal (1)

Establishment of **ICT Health** (Disease Prevention) Model

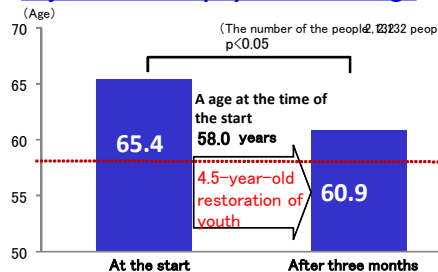
Implementing a large-scale social demonstration led by local governments and enterprises for the establishment and spread of a health (disease prevention) model that utilizes an ICT system and medical examination data while studying the ideal state of incentive measures, and promoting the model based on the results of the study.

Example (1) Health promotion based on medical examination data and health insurance claims

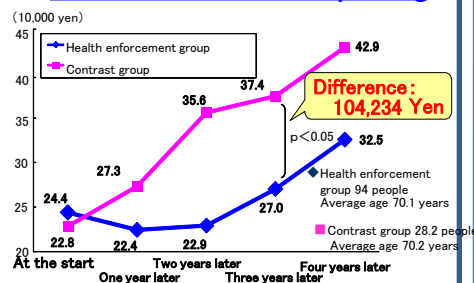


Promoting a behavioral change to achieve the promotion and maintenance of good health

Rejuvenation of physical fitness age



Reduction of health care spending

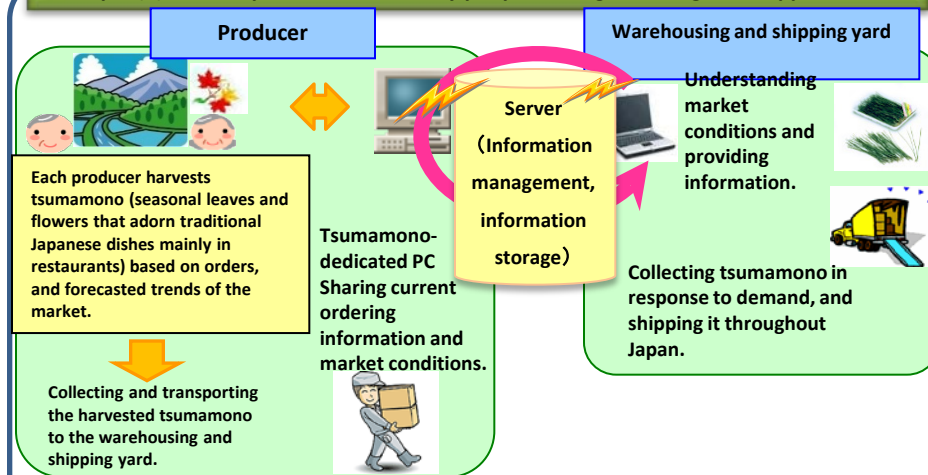


Contents of specific measures

Establishing and spreading a health model utilizing ICT.
Promoting measures to encourage the entire nation's awareness and behavioral change regards to disease prevention.

Cases in Mitsuke, Niigata Prefecture

Example (2) Health promotion of elderly people through farming work opportunities



Elderly people's engagement in local produce business will bring meaning into their lives, thus achieving a reduction in their health care spending and improvements in their health (a reduction of the number of bedridden elderly people).

Health promotion

- ◆ **Elderly people's annual health care spending per capita decreased to a little more than 600,000 yen** (while it reaches almost one million yen in other municipalities).
- ◆ The population ratio of elderly people is as high as 52.4%, the **number of bedridden elderly people is zero** (as of April 2010)

Establishment of economic efficiency

- ◆ Sales increased by approximately 1.5 times after the implementation of the project.

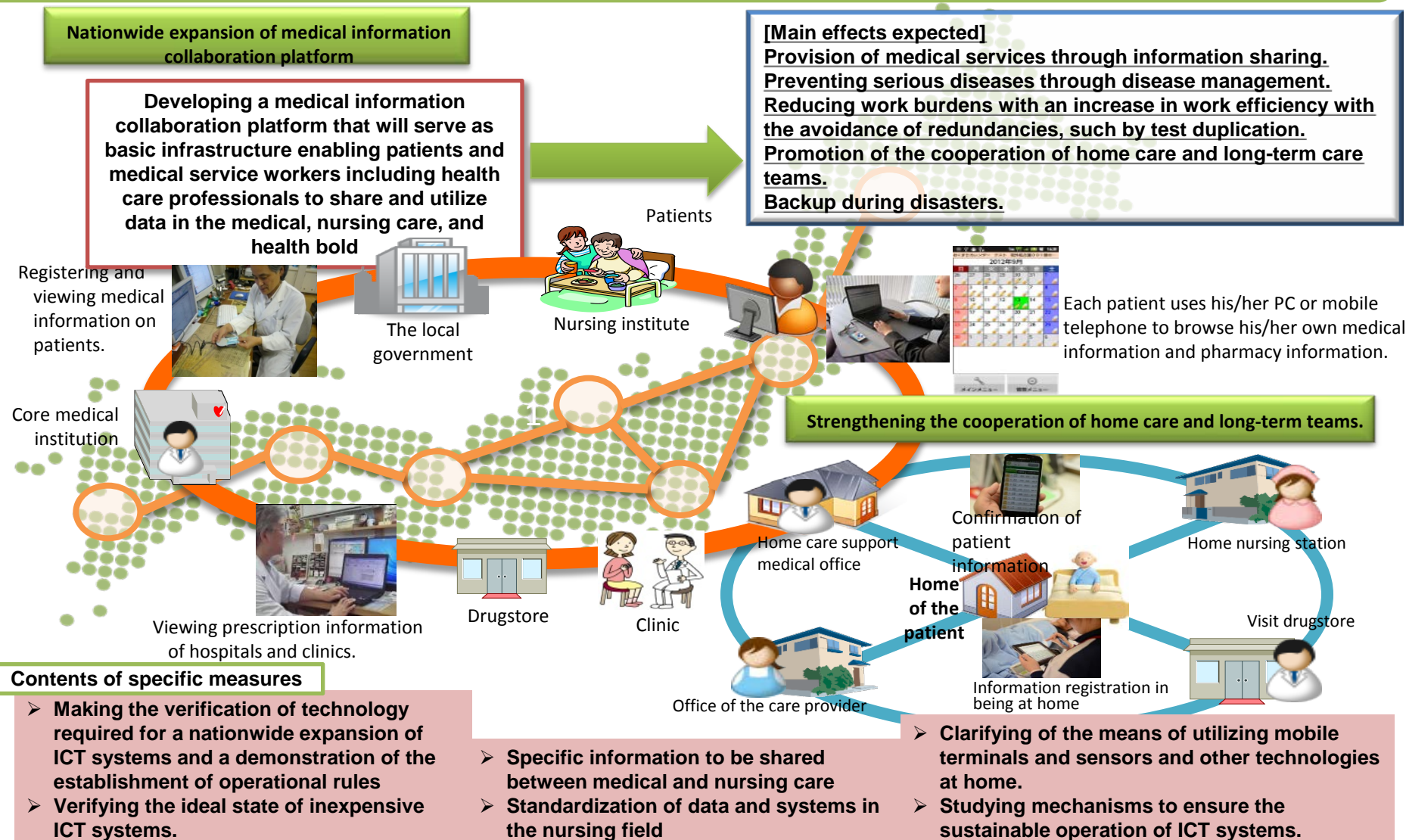
Case example in Kamikatsucho, Tokushima Prefecture

Contents of specific measures

- A demonstration of promoting the establishment and spread of a health model that provides people with various local work opportunities to improvement their health, along with an increase in the economic efficiency of the local area, such as in elderly people's engagement in farming.

Proposal(2) Nationwide Expansion of **Medical Information** Collaborative Infrastructure

- Promoting the development of medical information collaborative infrastructure that will serve as a basic infrastructure enabling patients and medical service workers, including health care professionals, to share and utilize data in the medical, nursing care, and health fields.
- Expanding ICT systems nationwide based on the demonstration of the efficacy of ICT systems to support the cooperation of home care and long-term care teams, with consideration to the practicability of ICT systems.



Criteria of SILVER ICT applications



HOME ELECTRONICS

Smart home
(supportive housing)
Sensors by bed
occupancy and
nightlight
Home safety alerts and
GPS
OASIS (open
architecture for sensor)
Remote for single living
sensors
Environmental controls
C cooker safety
Home treatment



HEALTHCARE

Telehealth (e-health)
Health information
management
Telecare

Robot care (Robot)
Service innovation in
hospital
Home care
E-carte
Client monitoring
system
Disease prevention



LIFE INNOVATION

E-inclusion
Ambient assisted living
Online shopping
Net reservations with
touch panel
E-banking & e-payment
ICT ethics for ageing
TV-seniority and
programs for the elderly
Social alarms
Social communication
technologies
Senior net talking
Easy call, easy mobile
and easy PC

Robot Suit Hybrid Assistive Limb[®] for Well-being

- When a person tries to move their body, bio-signals are sent from the brain via motor neuron. These bio-signals can be detected on the surface of the skin with sensors attached.
- applied for rehabilitation support and physical training support, ADL support for disabled people, heavy labor support at factories, and rescue support at disaster sites, as well as in the entertainment field.
- Adapting Mobility technology
- Robotic Nursing Care

source: <http://www.cyberdyne.jp>



E/M-HEALTH for Ageing well

Tele-medicine, Healthcare for smart communities

(Electronic/Mobile/Tele/Digital)

- **remote monitoring**
- **wireless medical prescriptions,**
- **emergency room,**
- **mobile hospital applications,**
- **electronic medical record**
- **measuring, storage and transmission to a database of patient's health statistics during daily routines, emergencies, the treatments of chronic illnesses, in case of elderly people who live on their own or with other elderly people.**
- **Smart Home for ageing patients**



My experiences with APECTEL from 1996 to 2015: Focus points and recommendations

- Intra-**Fora**: More collaboration among TEL, E-commerce, Economic Committee/HRD and others
- International **cooperation** with OECD, EU, etc.
- Tripartite **empowerment approach**: Government-Industry-Academia/Civil society
- Independent **evaluation**: [e-APEC] was evaluated by Waseda and PECC in 2005
- Need strong message to APEC **SUMMIT**: Linkage between WG and Leaders of Summit via SOM

Recommendation

1. Building a **smarter Health and Age-friendly Communities**
2. **Preventive medicine/treatment for healthcare** will reduce the total medical expenses
3. **User-driven** innovation needs - Users as co-innovator and co-producer
4. **Usability & accessibility** of ICT applications for healthcare such as Telemedicine, PHR and BB network will be the key factor for citizen-centric society

Recommendation(cont'd)

5. **Building Comprehensive approach by crossborder and inclusive multichannel/multi-stakeholder Initiative for e-health strategy is essential for Innovative economy**
Pilot projects will be key for future implementation and the lessons from the Best practices for e-health
6. **Network of Hospitals and Medical institutions for promoting Disease prevention**
7. **Establishment of Global Standard for e-health business which will grow rapidly**
8. **Challenge of implementing a whole- of-healthcare approach to bridge gap of service delivery in community**
9. **Analysis various dimensions of e-health impact as well as structural impact of ICT in Internet Economy**

Thank you !!



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