



New Framework of the Regional Medical System in the Aging Society: From a View of m-Health Economics

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Outline

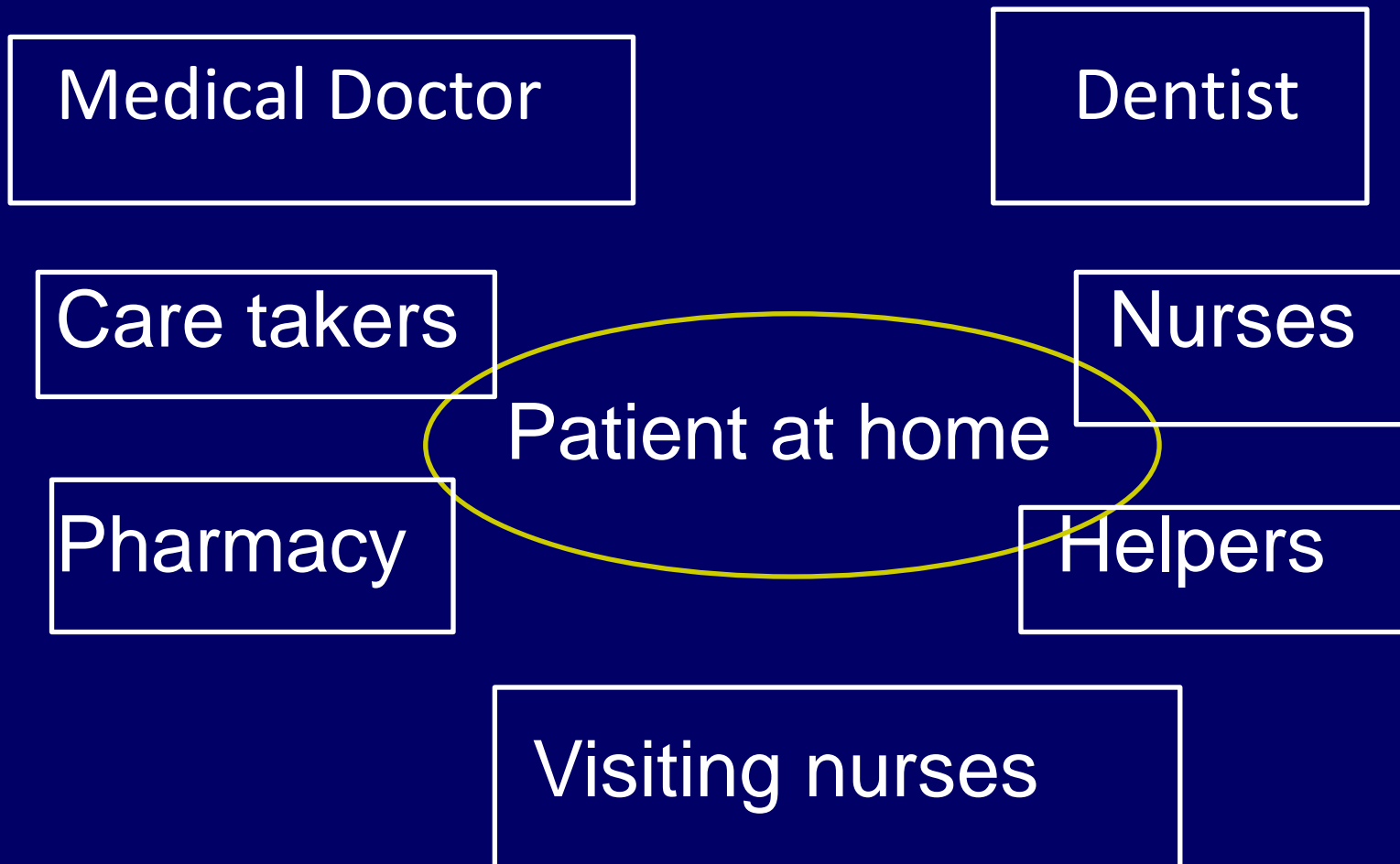
Basis of m-Health

m-Health inside the hospital

Three example of Tablet PC used by nurses

Issues of Japanese m-Health

Regional Medical/care Information System



Role of m-Health

How to promote efficiency by sharing of information on patient at home among different agents with mobile communication devices

Measuring benefit of m-Health

Design the system to promote m-Health

Reimbursement from medical insurance

Maintain privacy and security

Basis of m-Health I

1. Development and the diffusion of mobile broadband

Mobile communication infrastructure

3G, WiMAX and LTE

Handset

Smartphone

Tablet PC

Basis of m-Health II

2. Development HER and PHR

HER was Introduced by large medical institutions

Introduction of regional PHR by some regions

Kakogawa region (three cities)

121 regional hospitals and clinics

share data of diagnosis, medical examination and medication

Residents can carry IC card with these information

Basis of m-Health III

Trend of caring patients is to send back to home from the hospital

Due to reduction of medical costs

Patients prefer going back to home to die

Lack of medical resources in the rural areas

m-Health inside the Hospitals

Share information at the bed

Avoid risks of medical errors and mistakes

Medical errors are ranked high in the
reasons of death

Estimation result of incident report : Nurse

Dependent variable: Frequency of reporting of errors which could have had effects on patients but have no effects in this case as a result

	Marginal effect	S.E.	z	P> z
Factor 1	0.096	0.015	6.54	0 ***
Factor 2	0.176	0.016	11.04	0 ***
Factor 3	0.039	0.016	2.43	0.015 **
Dummy for manager	-0.08	0.045	-1.8	0.072 *
Dummy for facility 2	-0.031	0.026	-1.17	0.244
Dummy for facility 3	-0.063	0.03	-2.06	0.039 **
Risk aversion	-0.012	0.007	-1.64	0.1 *
Number of obs.			1116	
LR chi2(7)			205.27	
Prob > chi2			0	
Pseudo R2			0.0722	

Factor 1: supervisors' behavior related with the promotion of medical safety

Factor 2: medical staffs can discuss about the medical safety freely

Factor 3: concerning about the medical safety in hospitals as a whole.

Source: "Empirical Analysis of Factors Preventing Medical Errors in Hospitals," M. Tsuji, Minetaki, and Akematsu

Use Tablet PC used by Visiting Nurse I

1. Case of Ebina Hospital, Kanagawa Prefecture

6 visiting nurses

80 patients at home

4 patients a day, one hour per visit

Main works:

writing report of visiting patients

viewing directions by medical doctors

making out the visiting plan

Use of Tablet PC

Inputting only medical data, and mainly input **by hand**

Taking picture

Viewing patient's condition, medication, test data at
patient's home

Most of works done after they come back to hospital

“Olive Nurse,” Kagawa Prefecture II

Communications between visiting nurse and
doctors at hospital

“Olive nurse” is aimed to be NP in Alaska and
Hawaii in the US.

Using video conference system integrated with
HER; “DoctorCom” in Kagawa Prefecture.
Real time communications is enabled.

NP is not allowed in the Medical Law in
Japan

Software of *EIR* III

***EIR* is a start-up software company**

Its software aims to integrate data obtained by visiting nurse at patient's home with database at the hospital via mobile device.

Database is only for visiting nurses, but not connected to EHR of hospital .

There are many small businesses in this market.

Issues of m-Health by Mobile Devices in Japan

- (1) EHR is standardized, but systems for m-Health are not standardized.
- (2) m-Health is not sufficient to share information on patients with EHR. It is more or less stand alone type.
- (3) For regional information system, regional HER is required first.