

ITU Kaleidoscope 2014 Living in a converged world - impossible without standards?

Reverse Standardization from Public E-health Service

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E-health Standardization Activities

 E-health standardizations target on conversions of electric records



Think about convergence by an ecosystem and the business model from widely deployables

Real Deployment: Portable Health Clinic

- Kyushu University (Japan) and Grameen Communications (Bangladesh) prototyped an affordable "portable clinic" and experimented in villages and cities, Bangladesh
 - Confirm functionalities and usability of the system
 - NICT(Japan) provides BAN*-based portable clinic functions for a large number of experimental uses



BAN: Key Component in Portable Health Clinic Effective and no-mistake data retrieval for Portable Health Clinic and remote patient monitoring /assisted living



PORTABLE HEALTH CLINIC (PHC) IN BANGLADESH

AN AFFORDABLE, USABLE, SUSTAINABLE AND PREVENTIVE HEALTHCARE SYSTEM FOR UNREACHED PEOPLE



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BAN medical/healthcare Devices



Grameen healthcare lady

BAN-PHC procedure



Categorization

	Green	Yellow	Orange	Red
Waist	Male: <90cm Female: <80cm	≧90cm ≧80cm		
Waist/Hip Ratio	Male: <0.90 Female: <0.85	≧0.90 ≧0.85		
Body Mass Index (BMI)	<25	25≦ <30	30≦ <35	35≦
Blood Pressure (mmHg)	<130 mmHg	130≦ <140 mmHg	140≦ <180	180≦
	<85 mmHg	85≦ < 90 mmHg	90≦ <110	110≦
Blood Sugar	<100mg/dl	100≦ <126mg/dl	126≦ < 200mg/dl	≧200mg/dl
Postprandial Blood Sugar	<140mg/dl	140≦ <200mg/dl	200≦ < 300mg/dl	≧300mg/dl
Urine test				
Urine Protein	-	±	≧+	
Urine Sugar	-	±	≧+	
Urobilinogen	±		≧+	
Pulse Ratio	60≦ <100 bpm (beat per minute)	50≦ <60 bpm 100≦ <120	<50 120≦	
Arrhythmia	None		+	
Smoking	None	+		
Body Temperature	<37°C	37°C≦ <37.5°C	37.5°C≦	
SpO2	≧96%	93≦ <96%	90≦ <93%	<90%
Hemoglobin	≧12g/dl	10≦ <12g/dl	8≦ <10g/dl	<8g/dl

Results of Telemedicine by PHC in FY2013

- First time visitors > 8500 in FY2012, > 6300 in FY2013
- Visitors > 1400 in both FY2012 and 2013



Need sustainable ecosystem and business model

PHC Business Model

- A business model expects clear roles and relevance among companies involved in business
- May not sufficient to maintain



Ecosystem of M2M-enabled BAN-PHC

- M2M services provide pre-processing of collected and accumulated data for diagnosis, epidemiological research and so on
- BAN devices under M2M devices provide medical device evaluation



M2M-enabled BAN-PHC Business Model

- New business domain can be inserted
 - One example is device manufacturers
 - Many candidates to use automatic M2M communication with no intervention of medical/healthcare staffs



Open BAN Standards



Conclusion

- Reverse Standardization "Enablers"
 - Personal Health Clinic (PHC)
 - Practical experiences and results in developing country
 - BAN technology, especially MBAN
 - Can use in fields not only in hospitals/care houses because of small-factor and battery-operable devices
 - Can plug-in new tech. sensors following simple std. interface
 - M2M technology
 - Create new business roles in business model



Thank you