

AI Application for Primary Healthcare: Pyeongchang's experience

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About Pyeongchang county and its health and medical center



One of 261
City/County Health
Centers in S. Korea



Population	39,949 (as of Feb 2026), 1,464 Km ²
Governance structure	1 towns and 7 townships
Hospitals	1 long-term care hospitals
Clinics	36 (14 clinics, 12 dental clinics, 10 Korean medicine clinics)
PUBLIC health facilities	25 (1 <u>County health and medical center</u> , 7 sub-health centers, 15 nursing posts)

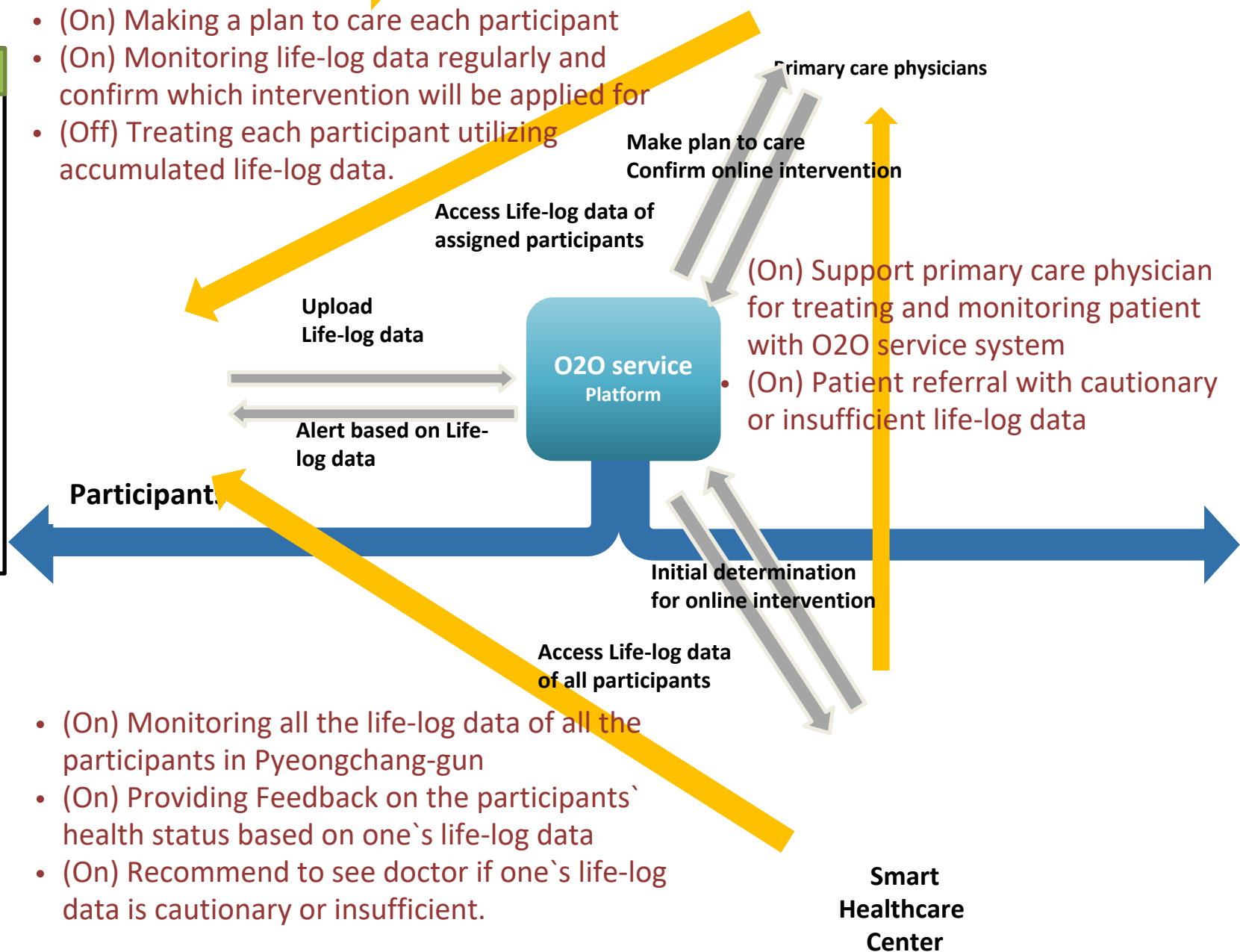
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Smart O2O Model Development for Chronic Diseases Management (2023-2025)

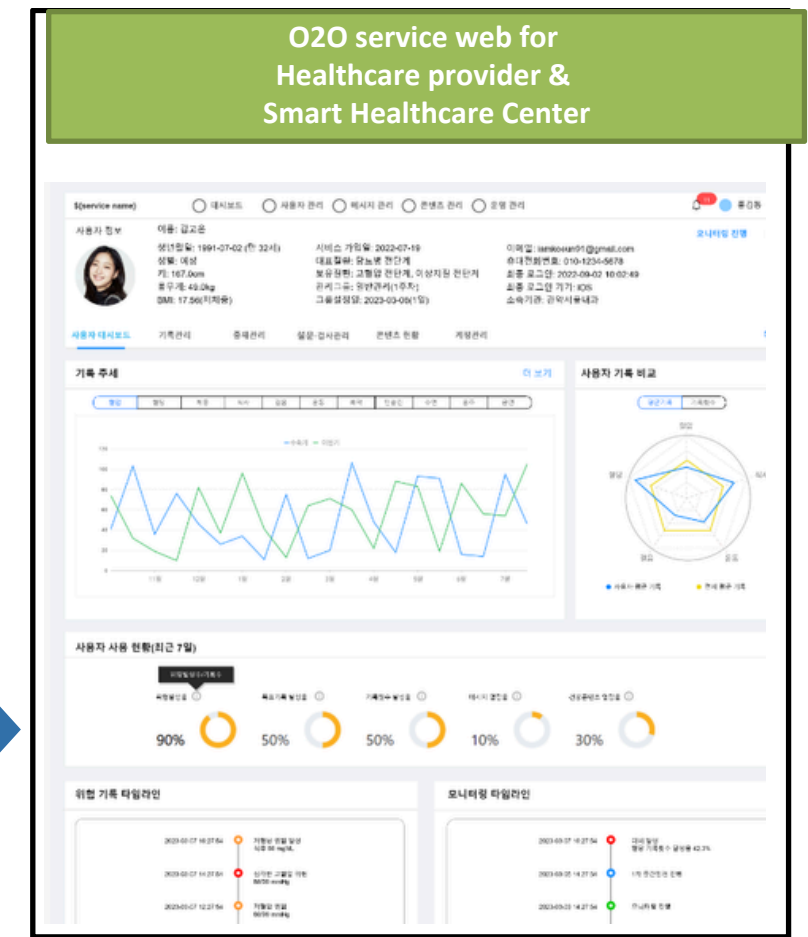


Data →
Service →

- (On) Making a plan to care each participant
- (On) Monitoring life-log data regularly and confirm which intervention will be applied for
- (Off) Treating each participant utilizing accumulated life-log data.



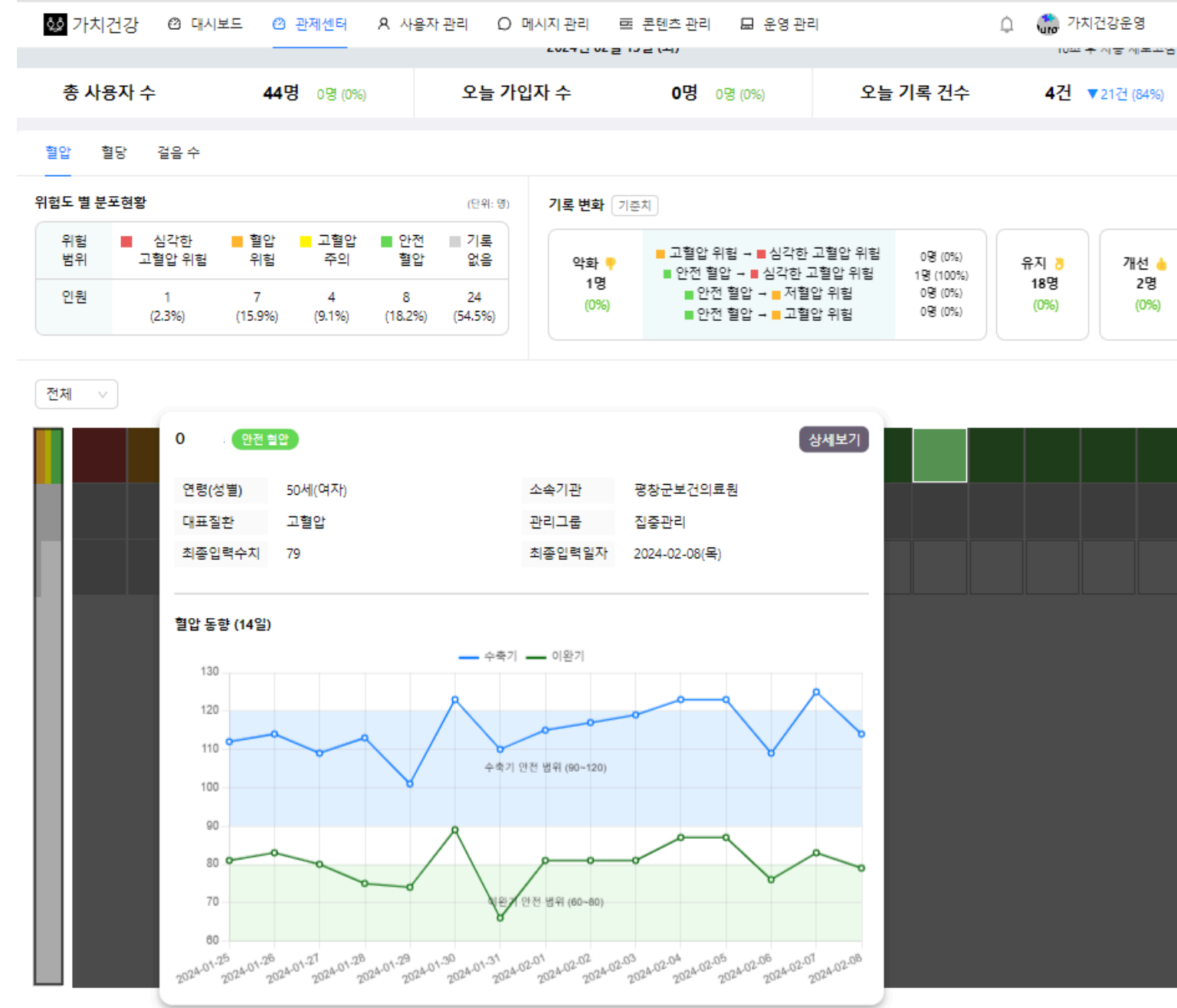
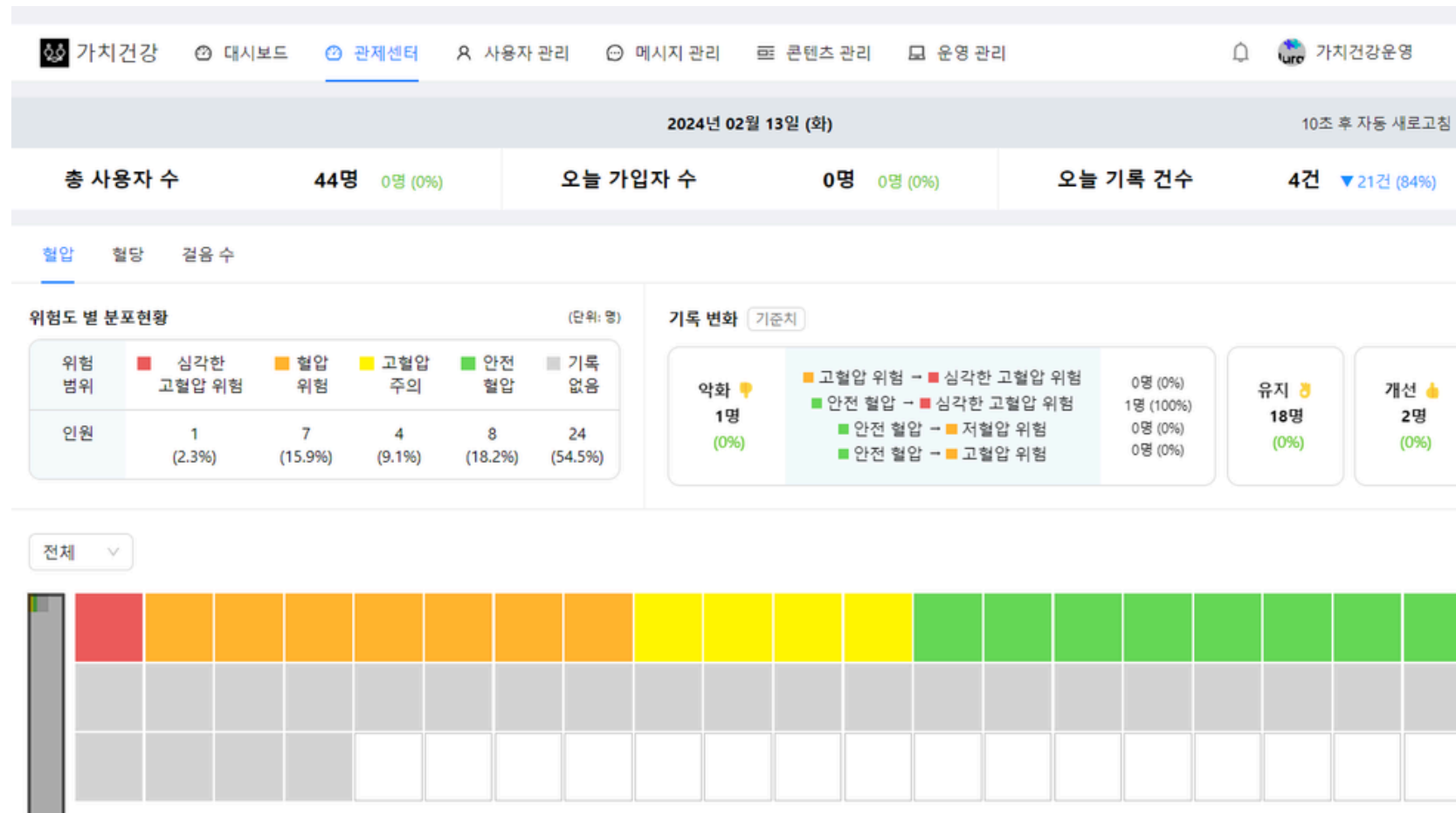
- (On) Monitoring all the life-log data of all the participants in Pyeongchang-gun
- (On) Providing Feedback on the participants' health status based on one's life-log data
- (On) Recommend to see doctor if one's life-log data is cautionary or insufficient.



*Slide courtesy of Prof Oh JH & Ms Lee HJ

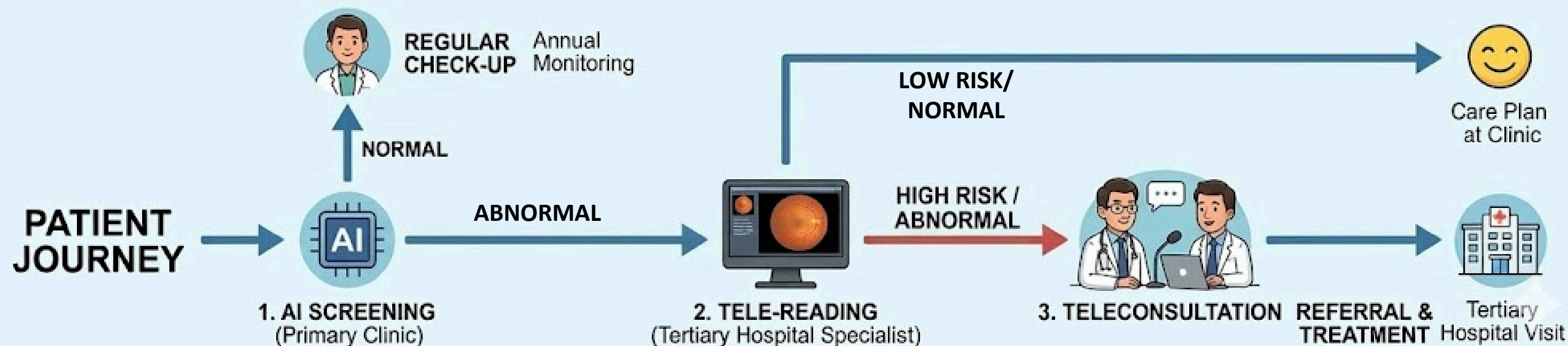
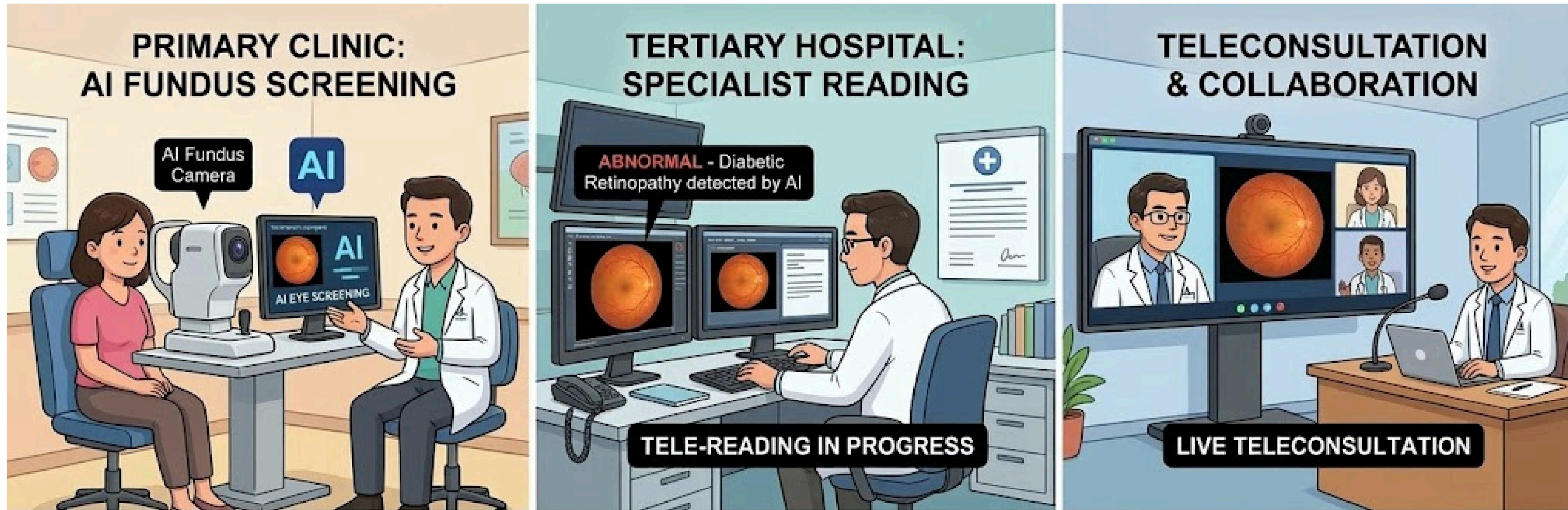
Website for service providers

▶ Dashboard for monitoring every patients' glucose level and ▶ PDashboard for checking the specific patient's record



*Slide courtesy of Prof Oh JH & Ms Lee HJ

Applying AI assisted Fundus Camera Screening



Result of preliminary analysis



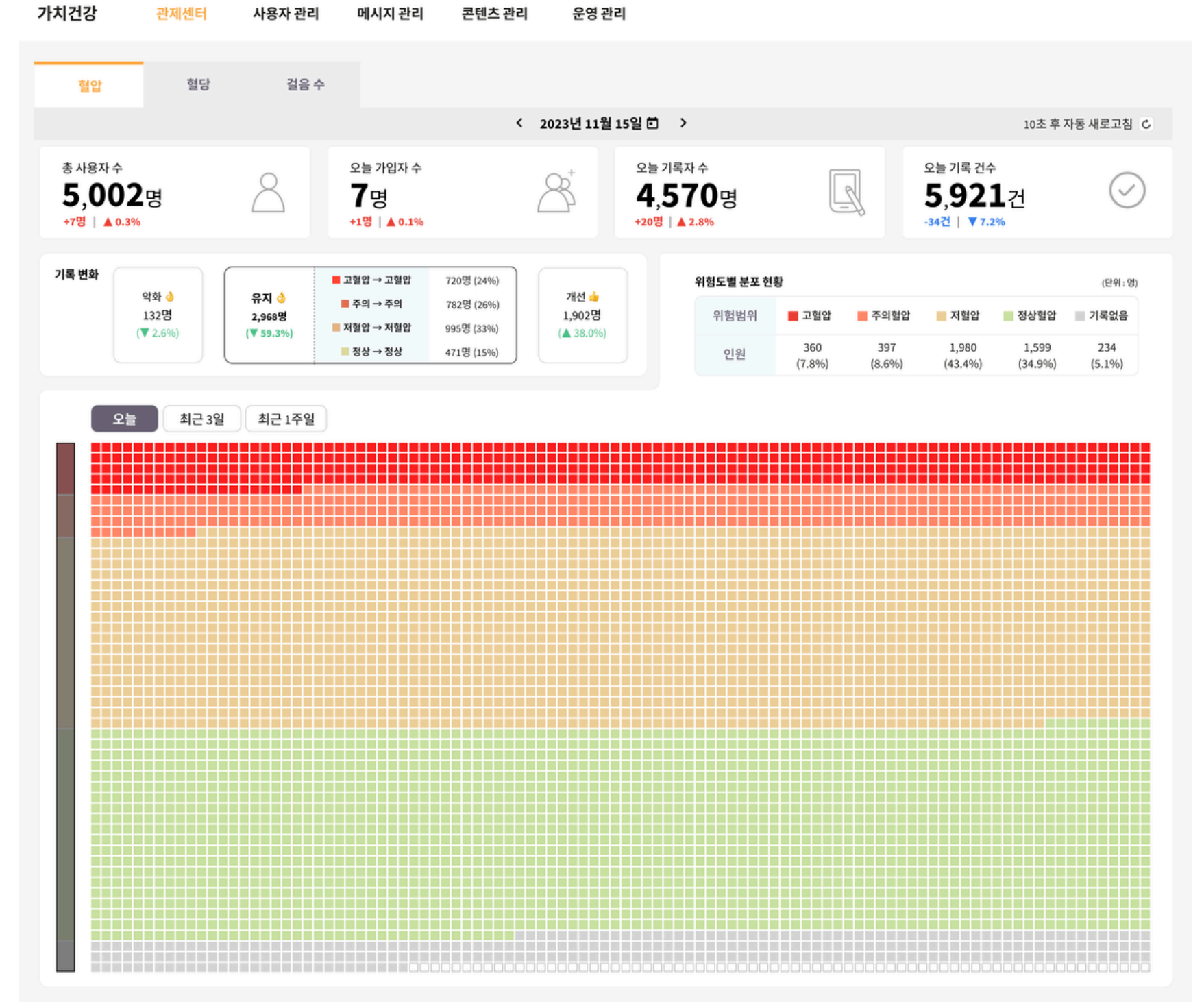
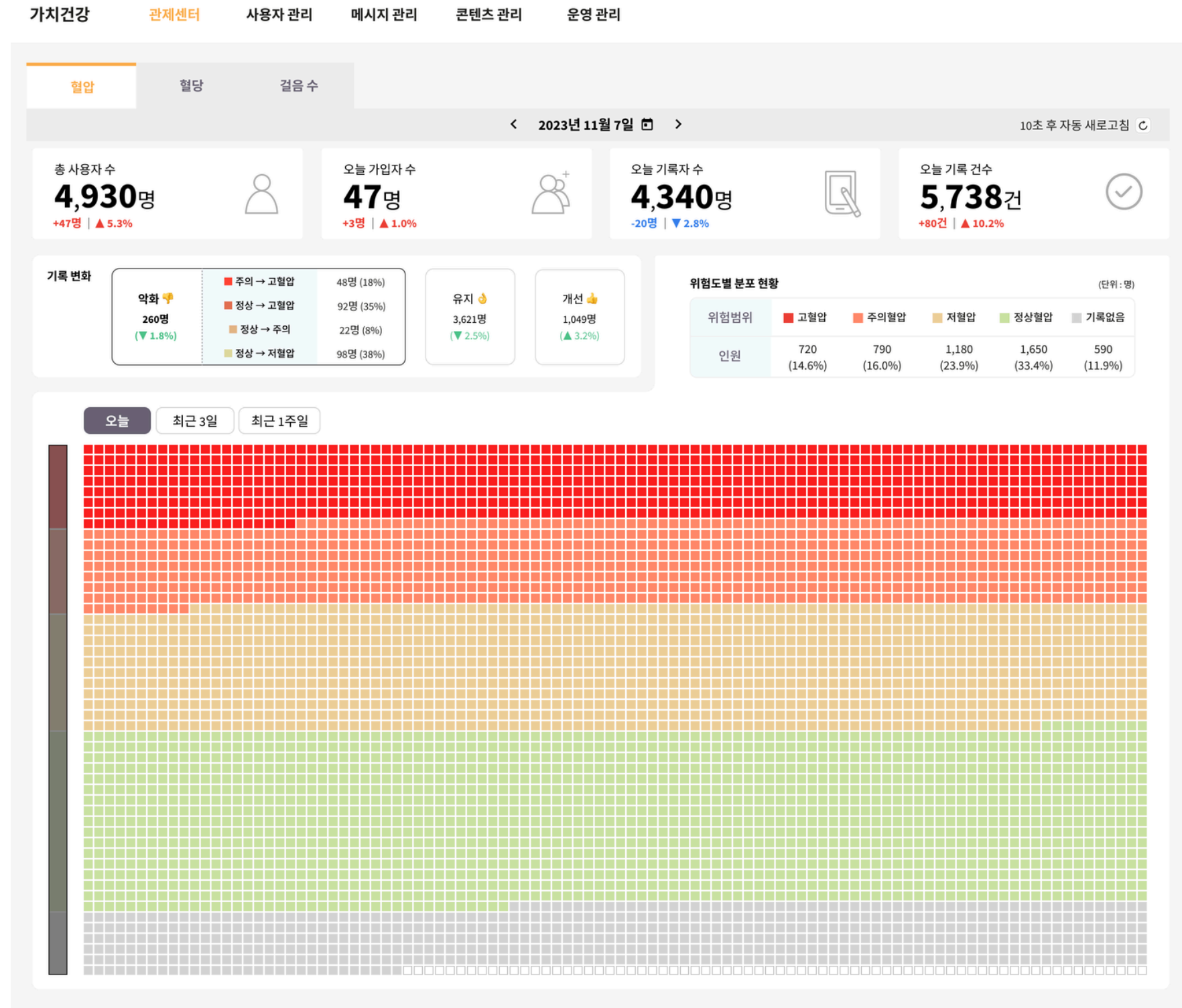
<Diabetes (n = 214) >				
	전	후	증감	P-value
HbA1c	6.7±1.1	6.4±1.0	-0.3	<0.001
FBG	116.7±26.6	114.7±28.2	-2.0	0.2276
BMI	26.4±4.4	25.8±3.3	-0.6	<0.001
Total Cholesterol	174.8±45.8	167.6±41.9	-7.2	0.0018
HDL	56.6±16.2	48.1±12.8	-8.5	<0.001
LDL	97.6±40.8	93.7±32.1	-3.9	0.0799

<HTN (n=251) >					
	전	후	증감	95%CI	P-value
SBP	144.7±16.0	135.8±12.7	-8.9	-10.9 to -7.1 to	<0.001
DBP	85.2±10.9	83.9±9.2	-1.4	-2.5 to	<0.05
BMI	26.3±3.4	25.9±3.2	-0.5	-0.9 to -0.3	<0.001
Total Cholesterol	177.3±44.3	171.9±40.9	-5.4	-9.5 to -1.1	<0.05
HDL	57.3±16.2	49.7±13.8	-7.6	-9.1 to -6.1	<0.001
LDL	98.9±39.8	96.8±37.1	-2.2	-6.2 to 1.9	0.960

(Unpublished results, do not quote)

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Future direction



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[For discussion]
AI for Primary healthcare

Why we tried it

- **Potential benefit**
 - Better NCDs management including better nutrition and physical activity counselling
 - Potential improvement of patient's experience and provider's job satisfaction
 - Partial fulfillment of unmet need such as fundus screening
- **Cost**
 - In the beginning, the cost seemed manageable
 - But, field-based cost-benefit analysis required
- **Risk:** Accuracy of AI fundus camera interpretation, digital literacy of elderly

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Future suggestions

- **Data Fragmentation:** Overcoming silos between life-log, public health centers, private clinics, and tertiary hospitals
- **The Digital Divide:** Ensuring equitable access for the elderly population who may lack digital literacy
- **AI Models:** Developing specialized algorithms for early detection of **frailty** and chronic disease management **focusing on nutrition and physical activity**
- **Applications:** Deploying AI agents such as AI Scribe and AI Triage in Community Health Posts (nursing stations) for real-time decision support and monitoring including IoT devices (digital stethoscopes, otoscopes) with AI for high-accuracy specialty referrals
- **Structural Load:** Preventing additional workloads for rural healthcare staff during the digital transition
- **Policy Innovation:** Advancing reimbursement models and legal frameworks to support AI integration in primary care

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Thank you!

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