

Global No. One & Only One

**Mobile auscultation  
and AI reading company  
based on 250,000 medical data**

Early screening technology for lung  
and heart diseases by reading abnormal  
breathing sounds and heart sounds



**DOCTORS  
BIOTECH**

2025.06.19 v2

# DOCTORS BIOTECH<sup>®</sup>

AI Powered Diagnosis

**Technology that gives you peace of mind  
if you don't have to go to the hospital**

**Technology to notify you if you have to  
go to the hospital quickly**

**It is a company that wants to become a hope in  
the medical crisis.**

## technology essential for health security and securing health sovereignty

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## 1. Background review

# Golden Time to Resolve Medical Issues and Preoccupy the Disease Screening Market

### 의료 AI란?

인공지능(AI)을 의료 분야에서 접목해 다양한 문제를 해결하고 작업을 수행하는 산업  
주요 응용 분야로는 컴퓨터단층촬영(CT), 자기공명영상(MRI) 등 진단영역에서 활용

### 의료 AI 장점

신속성

정확성

효율성

글로벌 의료 AI 시장 규모 (단위 : 달러)

1880억

110억

\$

2021년

\$

2030년

※ 출처 : 글로벌 시장조사기관 스태티스타, 각사

### 국내외 주요 기업

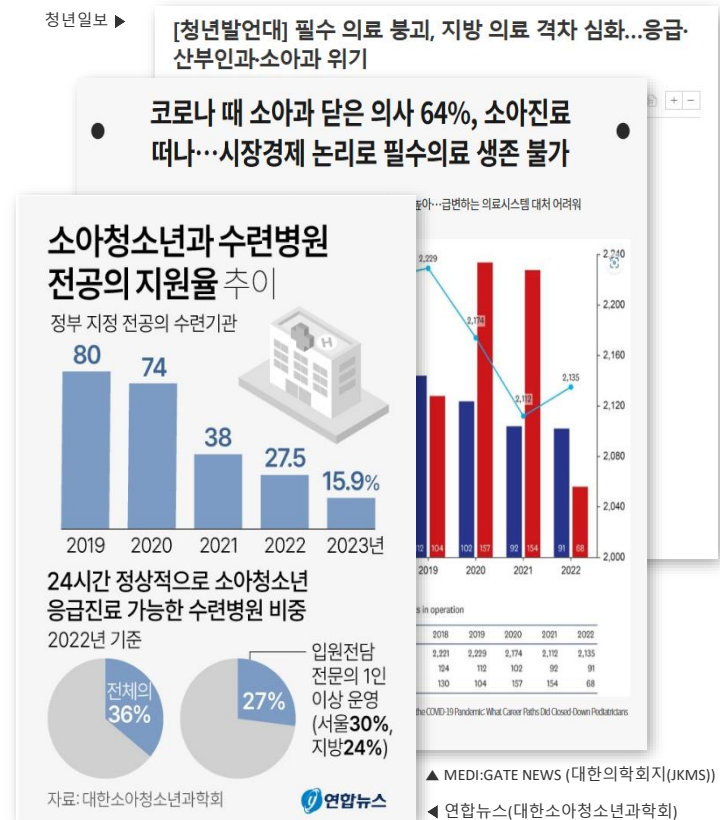
루닛, 뷰노, 제이엘케이,  
딥노이드, 코어라인소프트,  
지멘스 헬시니어스,  
필립스, GE헬스케어

In the midst of the medical crisis, the ensuing epidemic of respiratory diseases, our families increasingly threatened

### Pneumonia Continues to Rise After COVID-19 Pandemic



### Medical gaps caused by a decline in pediatric care

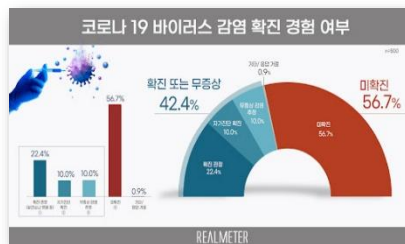


There is no basis for determining whether or not to go to the hospital, so there are many cases of untimely hospital open runs or missed times.

I don't know how dangerous it is,



▲ 헬스인 뉴스\_ 패렴과 감기 혼동 이유



▲ 한의신문 (리얼미터\_국민들의 코로나 바이러스 감염 여부 조사)

I was asking the parenting community



▲ 마미톡(육아커뮤니티)\_ 육아질문 발췌

The reality of increasing the costs of medical care

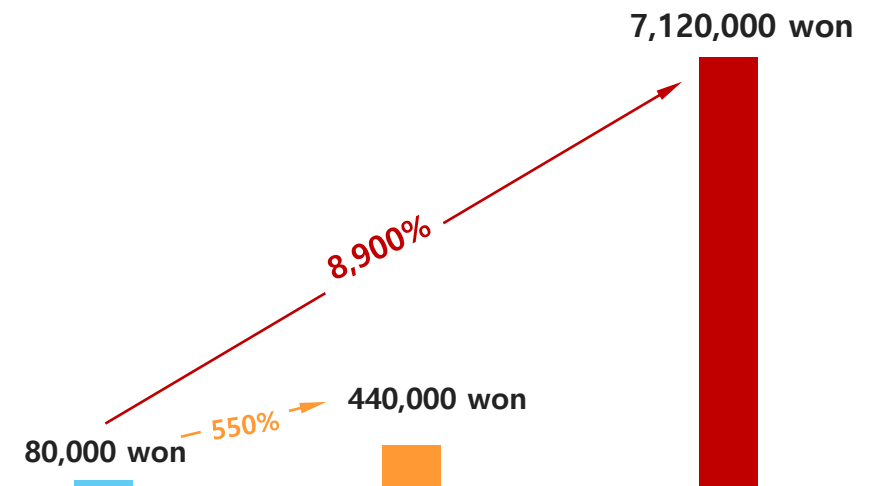
Golden Time's medical expenses

Medical fees if you miss the golden time

general outpatient medical expenses

medical expenses upon admission

medical expenses in case of serious illness



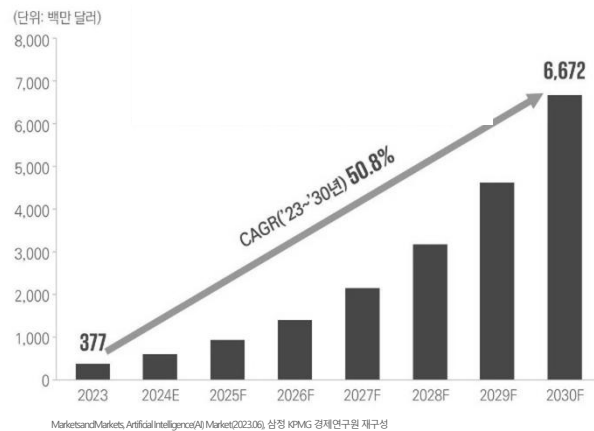
※ Health Insurance Corporation's Health Insurance Payment Data for 2010-2018

## 1. Background review

# Demand and Expectations for Early Reading Technology for Growing Diseases as a Large Share of the Rapidly Growing AI Healthcare Market

## AI Healthcare Market in Korea

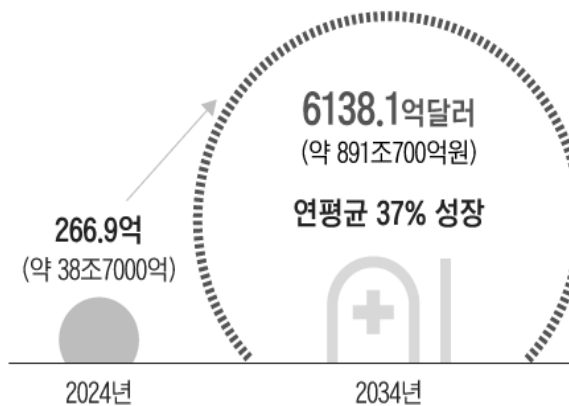
The market with an annual average growth rate of 50.8% over six years is about KRW 9.3 trillion



<https://kpmg.com/kr/ko/home/media/press-releases/2024/07/press-release-03.html>

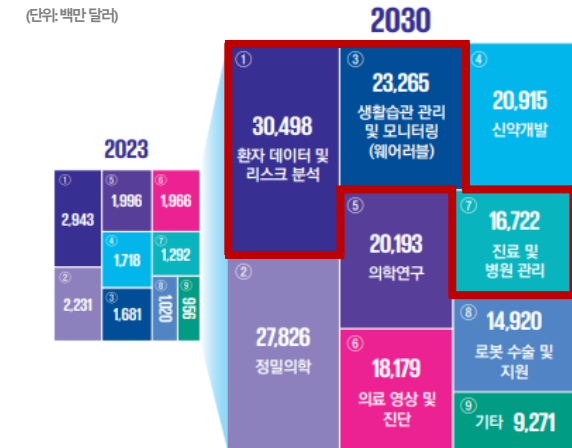
## Global AI Healthcare Market

Market with an annual growth rate of 37% over 10 years, approximately KRW 891.7 trillion



## Market size and outlook by application area

Screening for constant patient disease, accounting for 35.8% of the market

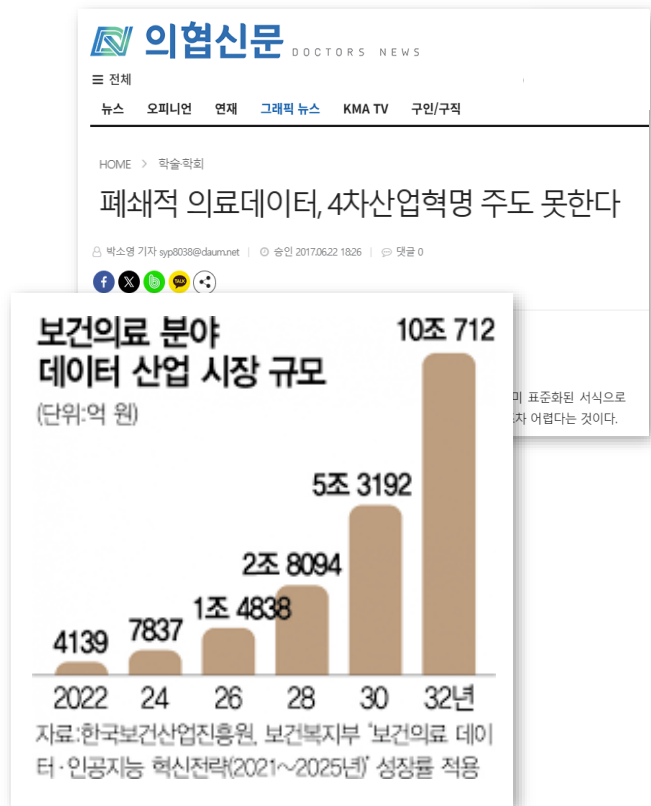


<https://kpmg.com/kr/ko/home/media/press-releases/2024/07/press-release-03.html>



## Limitations of dissemination due to the accuracy of data acquisition and the need to purchase expensive separate diagnostic devices

Difficulty in securing on-site healthcare data compared to a growing market



Failed to popularize with less than 10,000 lessons and essential separate device use

Total revenue of approximately KRW 1.18 billion as of '23 major global competitors'

→ Low accuracy, separate device purchases, and difficult usability exposes growth limits

### Smart Sound (KOREA)

(480,000 won, annual sales of 470 million won)

- ▶ AI-readed medical device not certified
- ▶ Transition to dog medical devices due to data security limitations



### StethoMe (Poland)

(370,000 won, annual sales of 710 million won)

- ▶ I need five minutes of sound collection
- ▶ Inaccurate with 9,319 cases of sound sampling



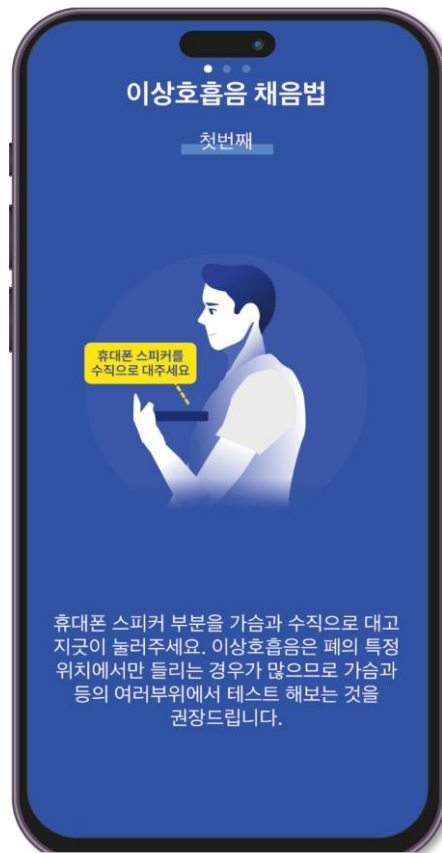


## 2. Core Competence

**Sound/vibration reading AI  
NO.1 to entry-level  
diagnostic instrument No.1**

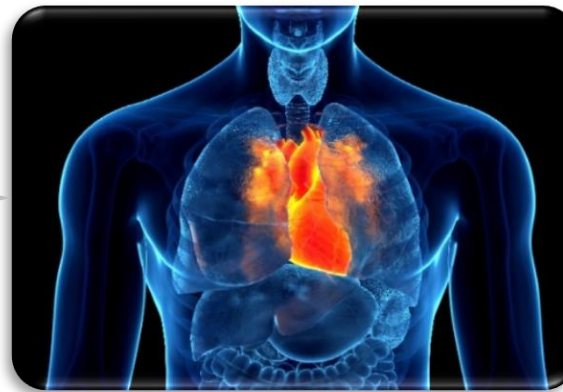


**A mobile AI reading solution that determines a patient's hospital trip, which can be converted into a medical device with only smartphone sound collection**



**Breathing sound**

- ↳ A thousand sounds, blistering sounds detected
- **Early reading of lung and respiratory diseases**



**Heart sound**

- ↳ Detect heart murmur, abnormal heartbeat
- **early detection of heart disease**

## 2. Core competence

First and only breathing sound  
Mobile auscultation and AI reading

[ M-Sound ]  
(Only Smartphone)

### Key Features

Reading the breathing sound

Reading Lung, Respiratory Diseases

누적 채음수

194,483cases

'25. 05. 20.

진단 정확도

95%

Accuracy: 95.7%  
ICBHI Score: 95.9%



## Global Mobile AI Reading No. 1, cumulative collection of 194,483 cases during medical device certification (clinical) (May 20, 2025)

### Core Competence

#### Global No. 1 Mobile Respiratory Sound Reading AI



Clinical trial of domestic medical device certification and GMP in progress

**ISO 13485**

**Clinical GMP**

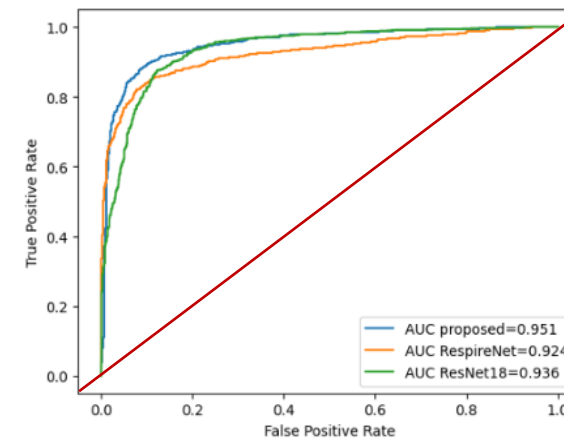
**664 cases**



Co-writing final clinical and world's first paper with Korea University Anam Hospital on mobile reading

### Competitive advantage and differentiating strengths

#### Consistency (ICBHI) demonstrates reliability of accuracy



High consistency with over 90% accuracy in both sensitivity and specificity

- └ Sensitivity\_ Disease included → Judgment rate of genetic disease
- └ Specificity\_ Disease-free → Disease-free judgment rate

※ ICBHI: International conference on biomedical and health informatics

※ Sungwoo Nam(ceo)'s thesis [ Attention Feature Fusion Network via Knowledge Propagation for Automated Respiratory Sound Classification ]



**Accuracy and consistency of more than 90% with advanced AI reading of 4 classes of breathing sounds collected within 2025, medical device certification**

**As Is\_ 2class**

[ 2class screening ]

└ **Accuracy: 95.7%**

└ **ICBHI: Score 95.9%**

[ 4 class screening ]

└ **Accuracy: 80.4%**

└ **ICBHI: Score 65.7%**



**To Be\_ 4 Class (Respiratory sound reading and medical device certification)**

└ Normal: 1 class

└ Abnormal: Wheezing\_ 2 class / Crackles\_ 3 class /  
Both\_ 4 class / + Respiratory rate

**Goal: 4class**

└ **Accuracy: 95%**

└ **ICBHI: Score 90%**

└ **Inference time: 0.3s**

**[ It's a disease that can be screened by reading the breathing sound ]**

분류	천명음 wheezing	수포음 crackles
스크리닝	폐렴 pneumonia	폐렴 pneumonia
가능	기관지 폐렴	기관지 폐렴
질환명	모세기관지염천식 asthma	모세기관지염
	크룹 croup	진폐증
	COPD 만성 폐쇄성 폐질환	
	이물질 흡입 및 기도 협착	

## 2026년 내 처음 된 심음의 4 class AI 판독 개발로 정확도 및 정합성 90% 이상, 의료기기 인증

### As Is\_ Accumulation of heart sound data

- Establishment of technical theory for heart sound reading and continuous collection of heart sound related data



### To Be\_ 4 Class Heartbeat Screening

- Normal: 1 class
- Abnormal: Murmur\_ 2 class /  
Abnormal beat\_ 3 class / Both\_ 4 class

**Goal: 4class**

Accuracy: 95%

ICBHI: Score 90%

Inference time: 0.5s

#### [A disease that can be screened by heart sound]

분류	심잡음 heart murmur	이상박동 abnormal beat
스크리닝 가능 질환명	<b>선천성 심장 기형</b> VSD, ASD, PDA, PFO	부정맥 arrhythmia
	<b>후천성 판막 질환</b> 승모판 역류증(MR), 대동맥판 협착증(AS)	심실빈맥(VT) 조기심실수축(PVC) 기심방수축(PAC)

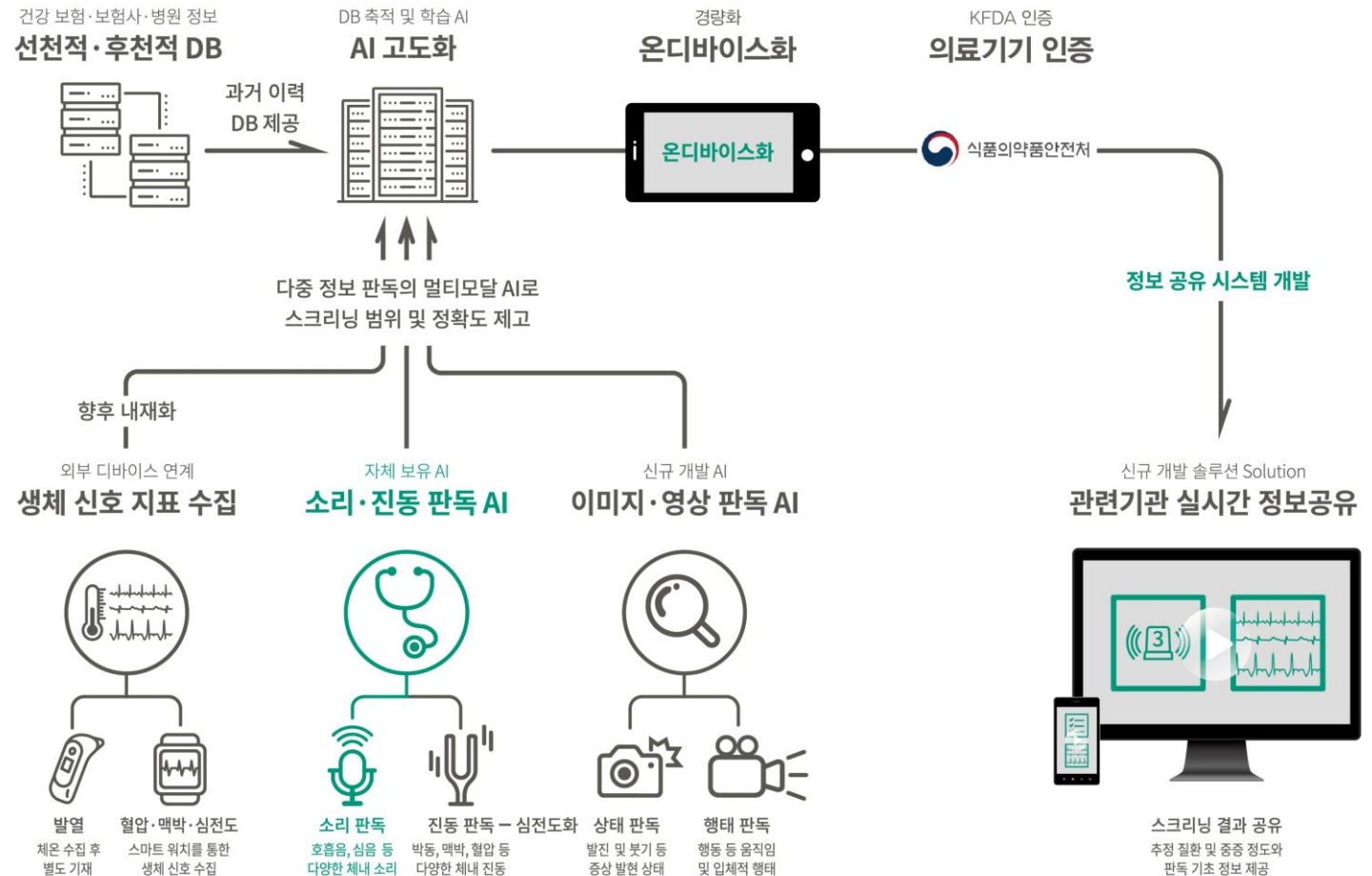
## Early screening service for diseases through image and video shooting with only built-in smartphone cameras in 2027

### [ 상태(이미지) 판독 가능 질환 ]

비대문협착증 (Pyloric Stenosis)  
장중첩증 (Intussusception)  
수신증 (Hydronephrosis)  
망막모세포종 (Retinoblastoma)  
황달 (Neonatal Jaundice)  
모야모야병 (Moyamoya Disease)  
농가진 (Impetigo)  
아토피 피부염 (Atopic Dermatitis)  
수족구병 (Hand-Foot-Mouth Disease)  
홍역 (Measles)  
수두 (Varicella)  
구내염 (Stomatitis)  
구순구개열 (Cleft Lip/Palate)

### [ 행태(영상) 판독 가능 질환 ]

영아산통 (Colic)  
뇌전증 (Epilepsy)  
발달 지연 (Developmental Delay)  
자폐 스펙트럼 (autism spectrum)  
치매 (Alzheimer)





## Continuous healthcare data acquisition and R&D drive utilizing close collaboration

# DOCTORS BIOTECH'

### Domestic data acquisition and R&D collaboration pool

임상·연구 개발 협력 협회



임상·연구 개발 협력 병원



R&D 및 POC 협력 병원



임상·연구 개발 협력 협회 (각 120여개 회원사 보유)



### Global data acquisition and R&D collaboration pool

글로벌 비대면 원격 의료 플랫폼



자체 직접 수출 협업



글로벌 메디컬 그룹



미국 수출 네트워크



일본 수출 네트워크



### 3. Business proposal

**Entry level disease early screening  
monthly subscription service  
(App. & Solution & Kiosk)**



**Promote monthly subscription BM collaboration with domestic and foreign telecommunication companies and AI healthcare services**

**Provisional Services**

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**KRW 1,000 per month for disease early screening services**

※ U.S. members provide 2,000 won per month on their own

**Only with the built-in MIC of the smartphone**

2025\_ Respiratory Sound (Lung, Respiratory Disease) Screening

2026\_ Heart and Heart Disease Screening

**Only with the built-in smartphone camera**

2026\_ Reading Quadruple, Dimple, Hip dislocation

2027\_ Hand-foot-and-mouth, atopic dermatitis,  
developmental delay, autism spectrum,  
dementia Screening

**Provides disease early screening subscription services**

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**Provides regular subscription service (SaaS)  
form based on carrier members**

**1. Mandatory monthly subscription service**

→ 50% carrier (including manufacturer) fee provided

**2. Subscribe to customer additional  
service selection**

→ 30% commission provided by carrier

## Maximize App penetration through collaboration with insurance companies and BM Share

### Insurer's Needs and BM Collaboration

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#### Discussing collaboration with insurance companies

- └ Currently, due to the golden time practice of the disease, the burden of real loss insurance payments in case of severe development increases (currently increasing)

→ **Requires early screening services for diseases**

### Provide disease early screening services and marketing tools

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**Provide disease screening services to reduce insurance companies' payments and provide customer attraction tools**

#### 1. Subscription fee Share type

App. Lower insurance premiums for insurance companies when downloading, 50% share monthly subscription fee deployment

#### 2. Insurance company-only service license

Insurance company-only app. Development/provided  
Receipt of License Fees

**Operate Kiosk as a health care tool for senior citizen centers and institutions by local governments**

**KIOSK type supply for screening for diseases in the organ**

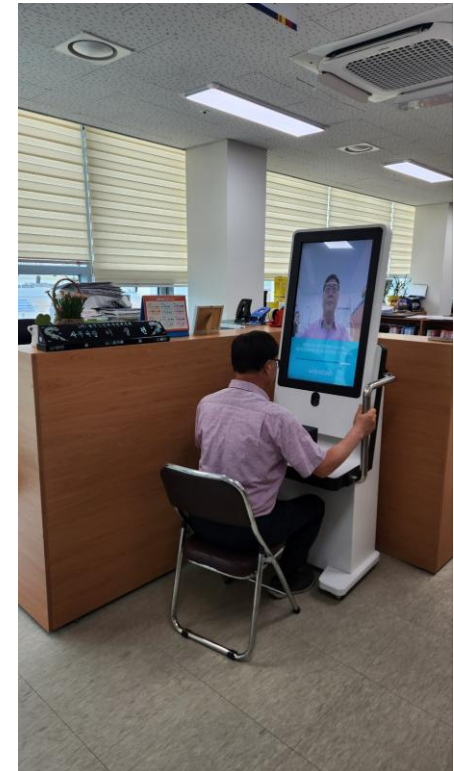
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It is currently being demonstrated at 16 centers in Seoul Economic Promotion Agency (SBA) and Guro-gu

Icheon Branch of the Korean Senior Citizens' Association and 2 Cheongmi Welfare Centers in Icheon will be supplied

The Taebaek City Pneumoconiosis Association and Senior Citizen Center are discussing the supply of 110 items

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#### 4. Corporate Information

**Challenges for our daily lives and the future that began  
at a hospital specializing in children and adolescents**

## Establishment of business continuity and stability based on healthcare data of 500,000 patients per year

**A hospital specializing in children and adolescents  
designated by the Ministry of Health and Welfare of Korea**



### professional medical staff

Pediatric and Adolescent Specialist\_53

Dentist\_7

Radiology\_ 2 people

Internal medicine\_ 1

### medical department

general care for children and adolescents

24-hour friend clinic

strong clinic

growth endocrine clinic

clinic in one's mind

pediatric neurological/renal/heart clinic

respiratory allergy clinic

pediatrics

internal medicine department

### Data acquisition and POC-based

**500,000 patients,**

**Mobile Stethoscope\_M-Sound**

+

MOU on Global Future Medical Development

└ Seoul National University School of Medicine

+

Medical Device Certification and POC Collaboration

└ Korea University Anam Hospital

**Securing long-term and  
continuous medical data and  
establishing a business  
collaboration system**



Based on the team work of current doctors  
who have studied AI healthcare together for a long time

CEO	Co Founder	Dr. staff	Medical adviser
<b>남성우</b> CEO <b>現)</b> (주)닥터스바이오텍 대표이사 <b>現)</b> 의료법인 우리아이들의료재단 부이사장 25.03 서울특별시 의회 의장 표창 제12회 중근당 존경받는 병원인상 前) 대한아동병원협회 정책이사 前) 구로구의사회 재무이사	<b>정성관</b> Co founder <b>現)</b> 의료법인 우리아이들의료재단 이사장 <b>現)</b> 서울시 구로구 의사 회장 <b>現)</b> 대한 병원협회 대외 협력 이사 <b>現)</b> 대한 전문병원협회 총무 위원 <b>現)</b> 대한 중소병원협회 회원 협력 위원장	<b>김민진</b> Dr. staff <b>現)</b> (주)닥터스바이오텍 의료 자문 <b>現)</b> 우리아이들병원 원장 前) 서울대병원 소아청소년과 수련의	<b>강대희</b> Dr. staff <b>존스홉킨스대 대학원 환경보건과학 박사</b> <b>前)</b> 서울대학교 의과대학 학장 前) 서울대학교병원 대외협력실 실장 前) 서울대학교 연구부처장

Research paper on technology

Attention Feature Fusion Network via Knowledge Propagation for Automated Respiratory Sound Classification

IEEE Open Journal of Engineering in Medicine and Biology, DOI 10.1109/OJEMB.2024.3402139

Sung Woo Nam, Seong Kwan Jung, and Seong-Eun Kim\*, Senior Member, IEEE

iMedic: Towards Smartphone-based Self-Auscultation Tool for AI-Powered Pediatric Respiratory Assessment

CHI EA '25, April 26-May 1, 2025, Yokohama, Japan, Sungwoo Nam, Seongkwan Jung, Seong-Eun Kim, Seung Gyu Jeong

5. Investment Highlight

**An entry-level diagnostic AI company  
capable of early surplus structure**

국내 입원 원인 **1위**

65세 이상 노인 사망 원인 **1위**

50세 이상 감염질환 사망 **1위**

국내 사망 원인 **4위**

연간 입원환자 **30만명**



## **The world's first, only, and sustainable super-gap company**

### **The world's first and only super-gap technology**

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The world's first smartphone breathing sound

AI Screening Medical Device Certification (within 2025)

The world's first and only 4 classes screening technology

Accuracy and consistency achieved at least 95% (within 2025)

With the world's first original smartphone

Respiratory Sound AI Screening Clinical Papers Presented (within 2025)

World's First Respiratory Sound AI Screening

Smartphone Completeness PCT Application Proceeding (within 2025)

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### **Easy screening for disease early for anyone with just a smartphone**

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#### **Only with the built-in MIC of the smartphone**

2025\_ Respiratory Sound (Lung, Respiratory Disease) Screening

2026\_ Heart and Heart Disease Screening

#### **Only with the built-in smartphone camera**

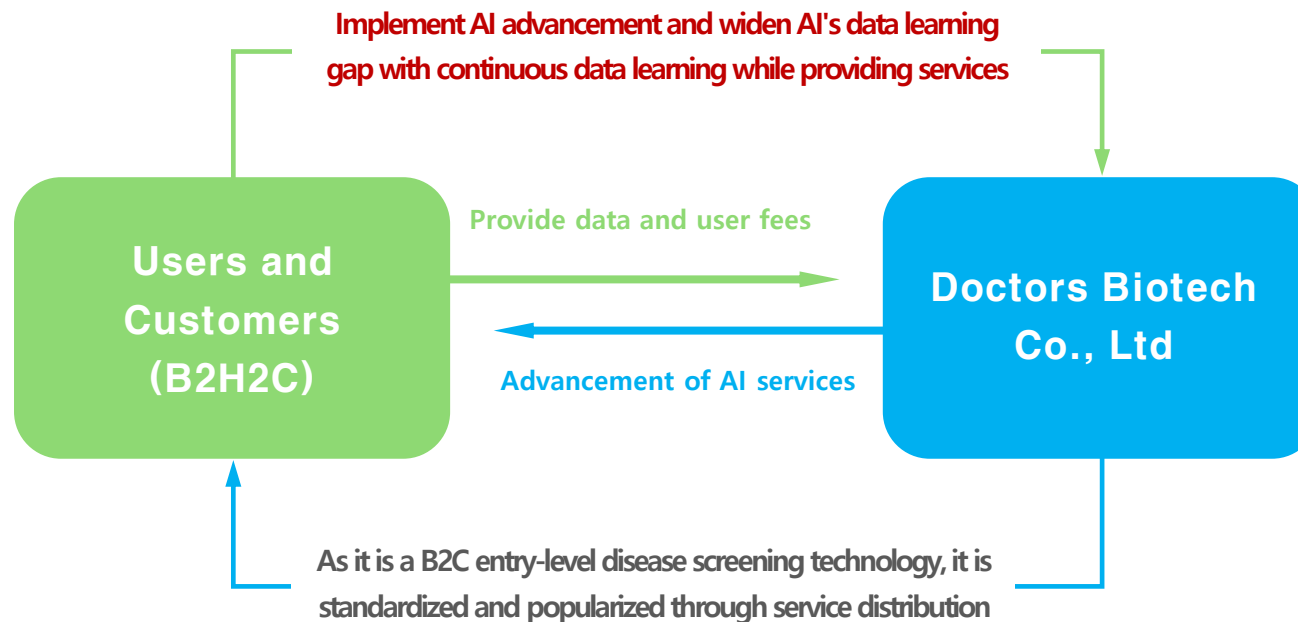
2026\_ Reading Quadruple, Dimple, Hip dislocation

2027\_ Hand-foot-and-mouth, atopic dermatitis,  
developmental delay, autism spectrum,  
dementia Screening

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**New Normal challenge as a primary reading tool with increased accuracy and reliability as it spreads!**

**Synergy between entry-level technology and AI**



**New Normal**

Easy and easy for everyone to use  
Everyone uses it without a doubt



## 5. Investment Highlight

**Black structure is possible early, and entry-level AI  
and solutions that are essential to our lives**

Sortation	2023	2024	2025	2026	2027
Key financial performance (Sales/Operating Profit)	KRW 180 million / KRW 120 million	KRW 270 million / KRW -230 million	KRW 270 million / KRW -230 million	15억 / 3억	50억 / 16억
Key Events	M-Sound Launch	SBA's POC Project	Medical Device Certification Deep tech TIPS	Development of Hybrid AI 2026 CES Exhibition Launch of hospital-linked solutions	Launch of entry-level diagnostic devices the promotion of overseas exports Launch of a regular monitoring system
Pre Value	KRW 1.5 billion	KRW 5 billion	KRW 10 billion	KRW 20 billion	KRW 30 billion
Attracting investment		Seed attracted KRW 300 million	Seed attracted KRW 200 million	Series A_ KRW 2 billion	Series B_ KRW 5 billion
Post Value		KRW 10 billion	KRW 20 billion	KRW 30 billion	KRW 50 billion

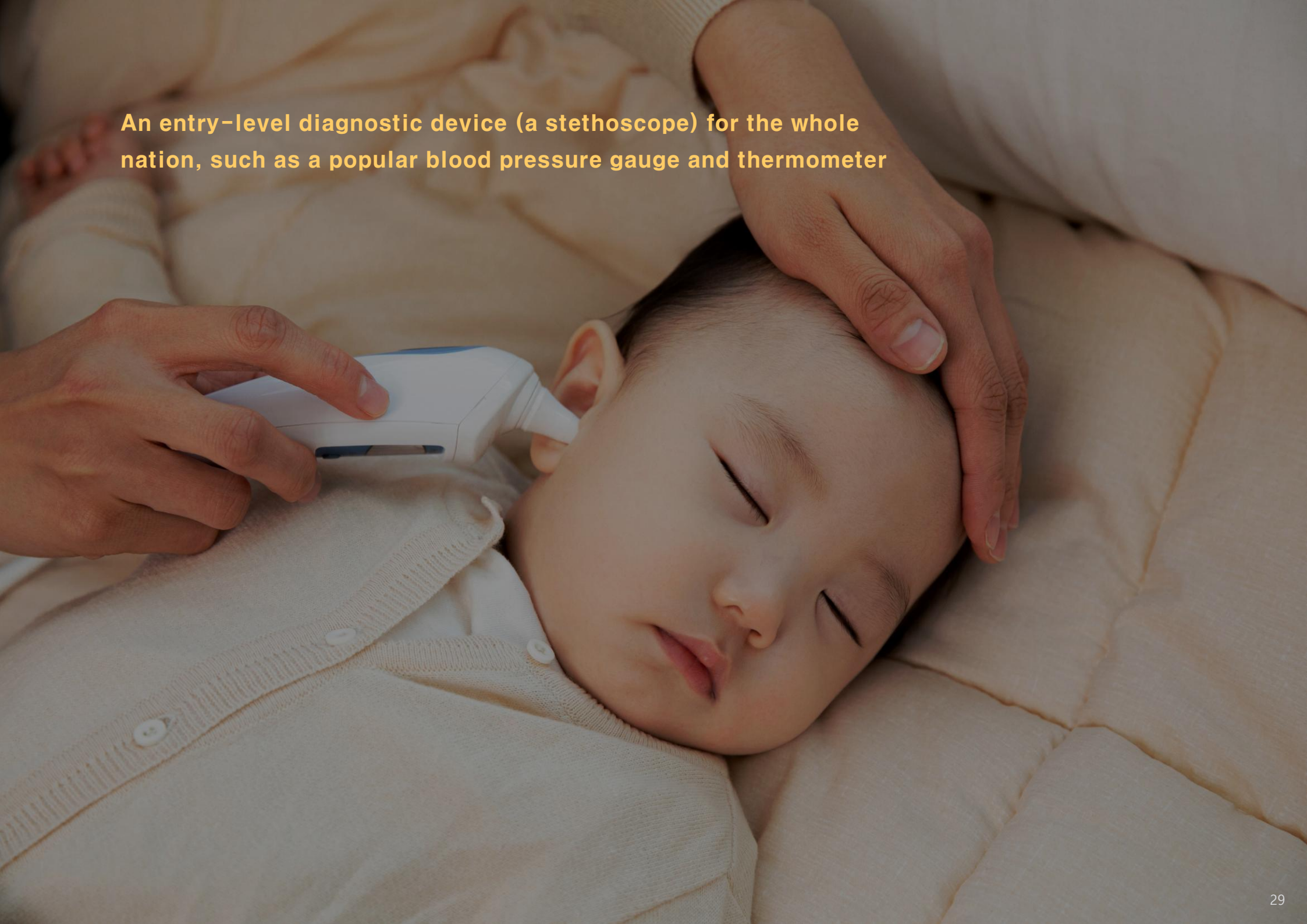
## 6. Epilogue

**Company that permeates every home,  
everyone's phone, and accompanies everyday life**

의료재난 '심각' 걱정  
"이번 주말이 골든타임"



**An entry-level diagnostic device (a stethoscope) for the whole nation, such as a popular blood pressure gauge and thermometer**





## Ultimately, innate + acquired life monitoring

### ▶ Foundation for building a personalized healthcare system

