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# CardieX

A Global Health Technology Company  
ASX:CDX

Overview &  
China Market Strategy

MARCH 2019





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# CRAIG COOPER – CEO

## Australia

**Co-Founder** - NRG Asia–Pacific (Australia’s largest independent energy producer)

**Founder** – Private Energy Partners (PEP)

**Partner** – M-Mobile (largest independent mobile retail distribution company in Australia)

**Senior Associate Lawyer** – Blake Dawson Waldron - counsel to United Airlines, The Disney Corporation, DHL International (External General Legal Counsel)

*“Craig has built and transformed some of the leading businesses in consumer Internet and digital media. He has a vision for big market opportunities and a passion for living life to the fullest.”*

**Anthony Robbins | Entrepreneur, Author and Peak Performance Strategist**

## USA

**Co-Founder** - Boost Mobile USA

**Managing Partner** – The Action Fund

**Investor** - The Huffington Post (acquired by AOL), BuzzFeed (USD\$3B), Buddy Media (acquired by Salesforce), Associated Content (acquired by Yahoo), xAD (USD\$1B)

**TV Host & Investor** – CNBC’s “Adventure Capitalists”

**Head of Venture Capital and Digital Media** – Saban Capital (\$700M)

**Founding Partner** – Softbank Capital (\$500M)

**Venture Partner** – VantagePoint Capital Partners (USD\$3B)

**Co-Founder** - EBT Mobile 数码通信 (China) LTD





# BOARD OF DIRECTORS



**Chairman**

**Niall Cairns**

*BEC, ACA, FAICD*

**Managing Partner** - Kestrel Capital Pty Limited

**Director** - Tru-Test Corporation Limited

**Chairman** - ComOps Limited (ASX: COM)

**Director** - Chant West Holdings Limited (ASX: CWL)

**Managing Partner** - Kestrel Growth Funds

**Managing Partner** - Carnethy Evergreen Fund



**Executive Director & CEO**

**Craig R. Cooper**

*BEC, LLB (Hons)*



**Non-Executive Director**

**R. King Nelson**

*BA, MBA*

**Director** - Regenesys Biomedical

**President, CEO & Director** - Uptake Medical

**Director** - Digirad

**President, CEO & Director** - Kerberos Proximal Solutions

**President, CEO & Director** - VenPro Medical (Medtronic)

**Division President** - Baxter Healthcare (various businesses)

**Sales & Marketing** - American Hospital Supply

# KEY MANAGEMENT

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**Doug Kurschinski**  
**EVP & Head of Global Sales**

Cardiac Pathways (Boston Scientific)  
St Jude Medical (Abbott)  
Stereotaxis



**Jarrod White**  
**Chief Financial Officer**

Traverse Accountants  
University of Sydney



**ZiHan Lin**  
**VP of Corporate Development**

Masimo  
Uptake Medical  
Harvard / Stanford



**Rhonda Welch**  
**Strategic Market Access**

J&J - Biosense Webster  
Baxter Healthcare



**Yervant Chijian**  
**Director of RA & QA**

ResMed  
UT Sydney - Engineering



**Lawrence Chan**  
**Director of Product Development**

Cochlear  
Silverbrook Research



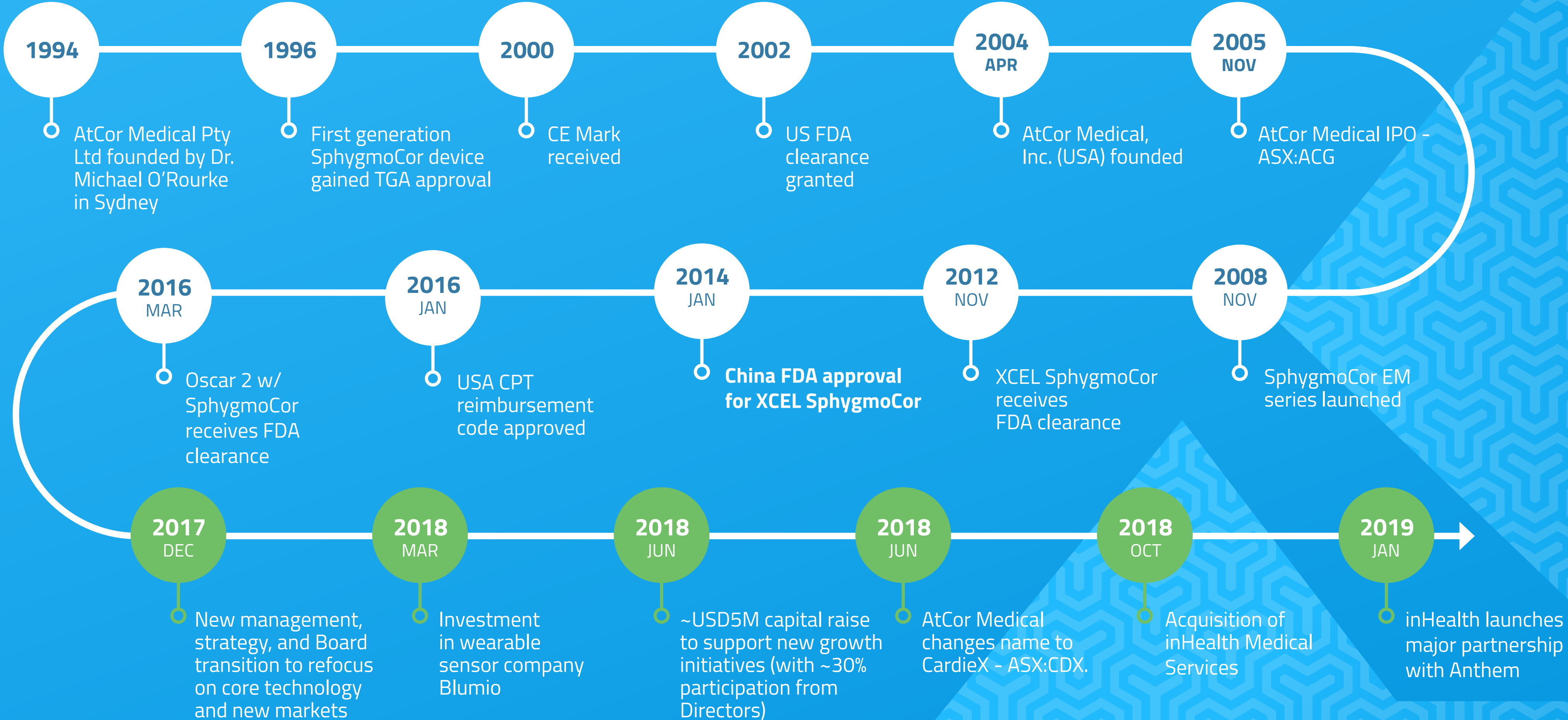
**Harry Kim**  
**Senior Advisor**

American Well  
Samsung Electronics  
Hewlett Packard  
Deloitte Consulting



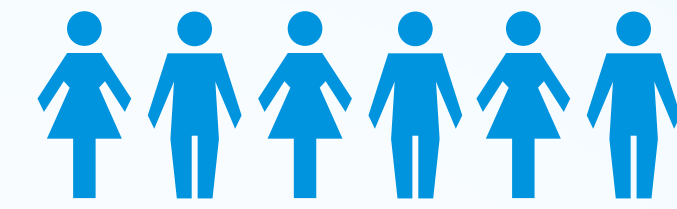
# CORPORATE HISTORY

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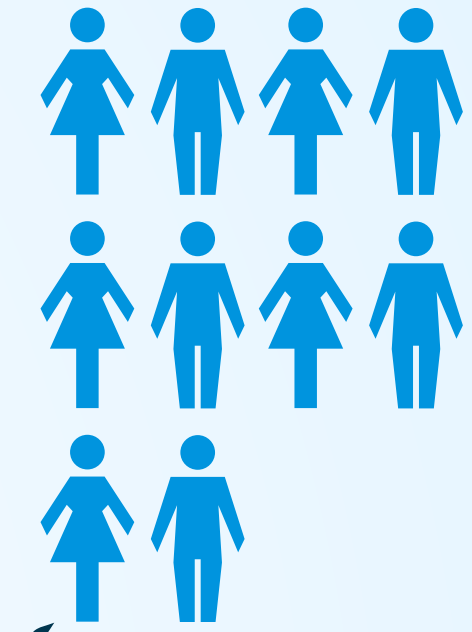




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\*Co-development/  
engineering office with  
Blumio, Inc



**ORANGE COUNTY**  
Executive & Corporate Development



# BUSINESS OVERVIEW

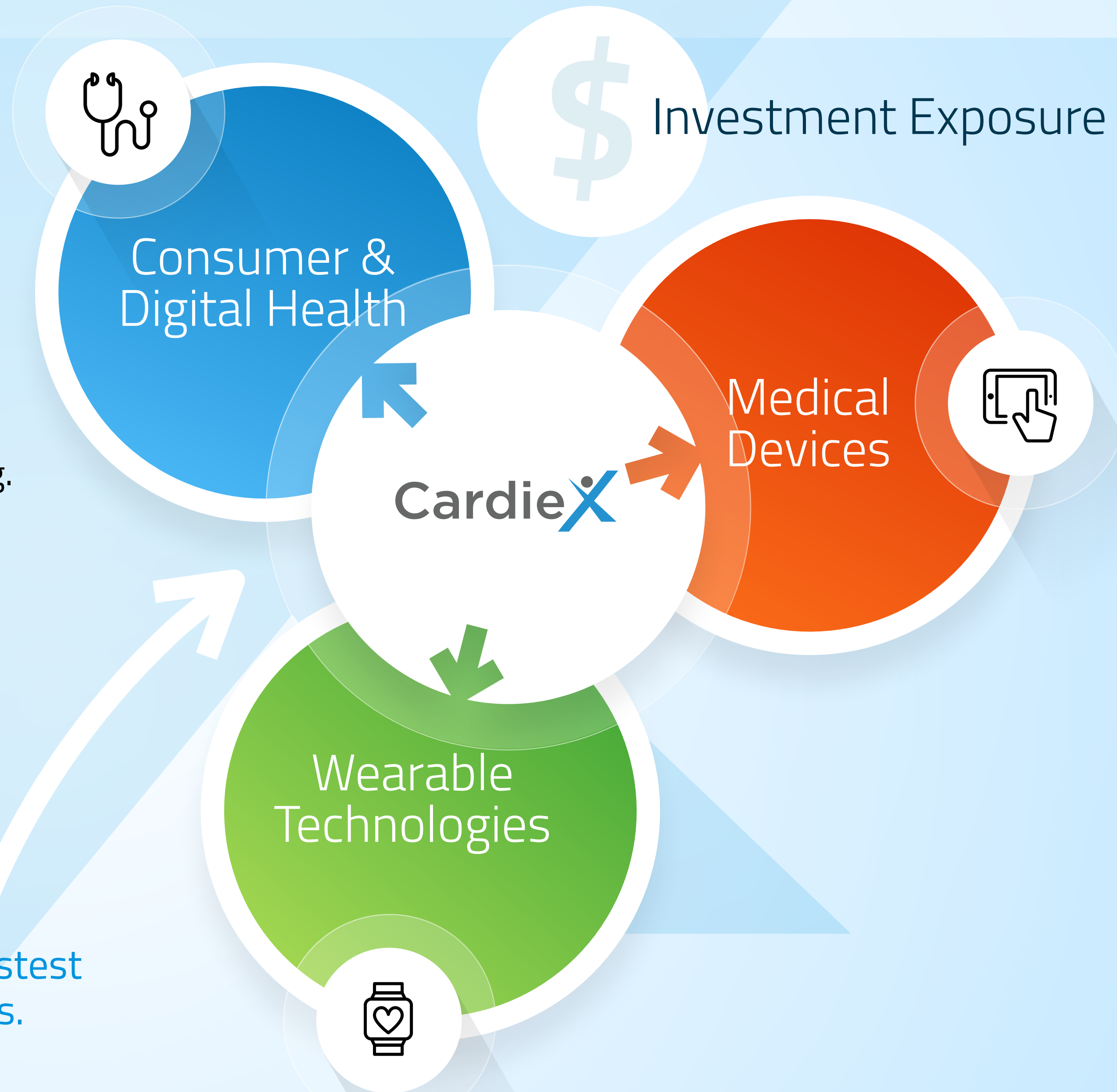
We provide digital and device based solutions for large scale population health disorders with significant market scale.

- Current focus is on **cardiovascular disease (CVD) and heart health** - the #1 cause of premature death globally.
- Our long term future lies in developing large scale health technologies in other significant global wellness markets (e.g. obesity, orthopedic health, diabetes management, urology).

Our health solutions and IP have the potential to disrupt multiple multi-billion dollar markets in preventative diagnostics, patient management, wearables, and consumer/digital health.



We provide investment exposure to 3 of the fastest growing global healthcare market opportunities.





# OUR PORTFOLIO OF SOLUTIONS

Ecosystem of Synergistic Healthcare Technologies



## Gold Standard Medical Technology

- Central blood pressure measurement technology for medical and research professionals.
- Turnkey clinical trial services.
- Strong IP portfolio for licensing with flexible integration options.
- Distribution partnerships in emerging markets throughout Asia-Pacific, China and Europe.



## AI-Powered Wearable Sensors

- Ongoing cross-licensing partnership with technology undergoing clinical trials.
- Targeting "reference design" sales to wearable and consumer device makers (e.g. Apple, Garmin, etc.).
- Targeting direct product sales of CardieX health wearables.
- Co-development revenues from jointly developed Blumio+CardieX products and IP.



## Consumer-Focused Digital Health

- Health coaching fees via Telemedicine platforms (e.g. Anthem, American Well, etc.).
- Sale of nutritional and health coaching subscriptions (devices, meal plans, supplements).
- Licensing inHealth program to wearable and consumer health companies (e.g. Xiaomi, Samsung, etc.).
- Mobile app sales.



## New Product Development

- Commercial in confidence development of new products and services for USA and Chinese medical and consumer markets.
- Current focus on commercialization of CardieX IP in new devices and technologies.

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OUR MISSION IS TO CREATE A SIGNIFICANT AND VALUABLE HEALTHCARE ECOSYSTEM OF COMPLIMENTARY PRODUCTS AND SERVICES

Mobile & Digital Health

Medical & Health Devices

CardieX

Wearables & Health Tech

Direct to Consumer Health



# THE GLOBAL PROBLEM

A Worldwide Epidemic

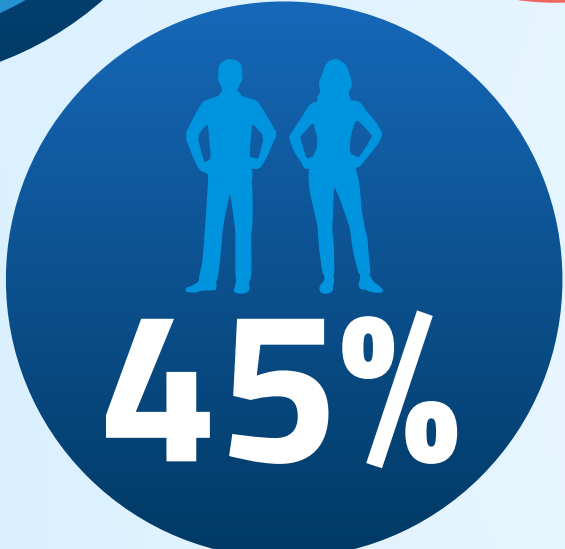
**CVD is the #1 killer of humans** by non-natural causes



**1B** hypertensive individuals globally



**20M** deaths per year from CVD-related disorders (28% of all global deaths)

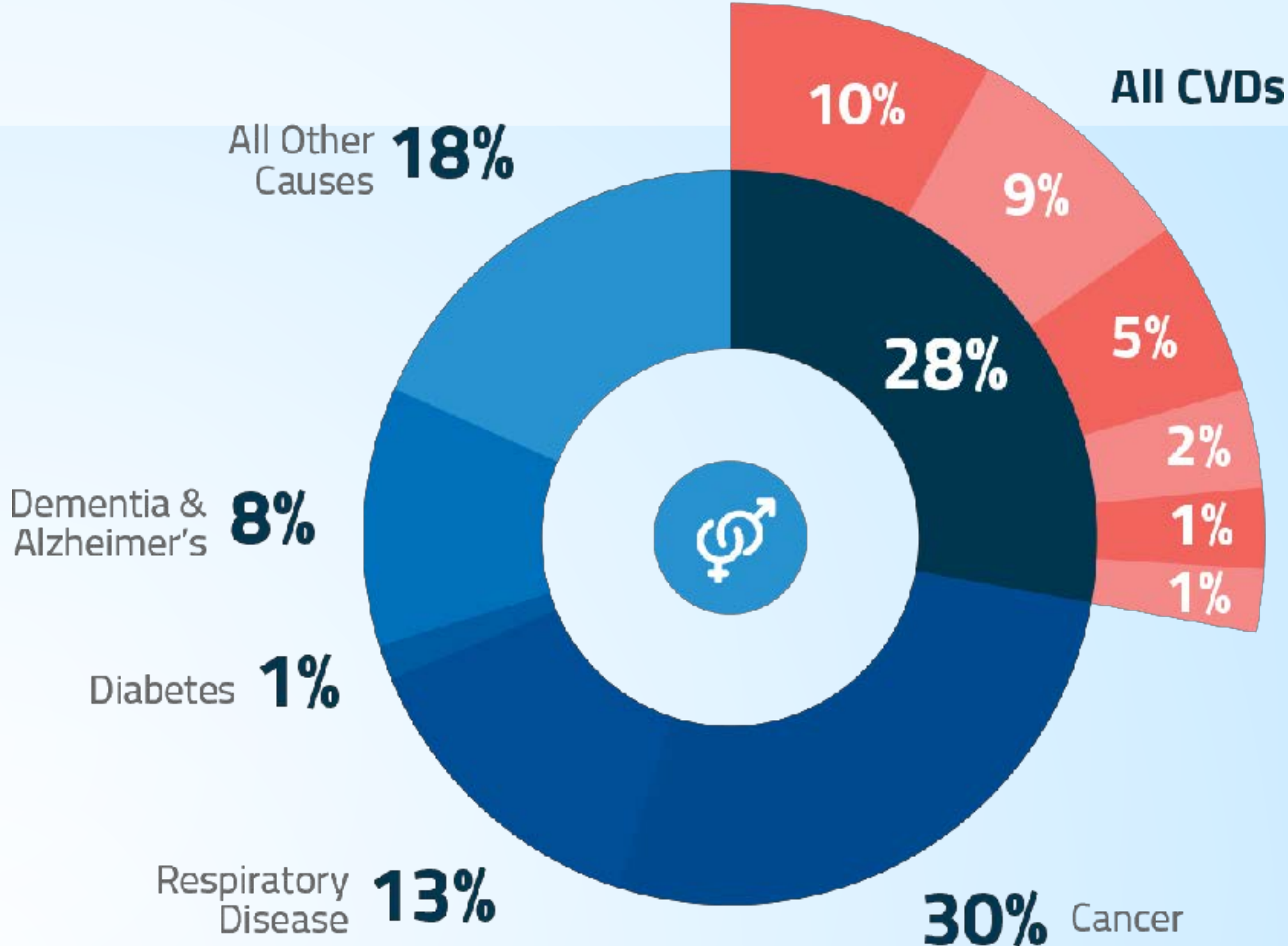


**45%** American adults are now considered at risk for CVD

New American Heart Association (AHA) guidelines

Current embedded technologies (brachial blood pressure monitors) are failing to properly detect, prevent, and manage heart disease - leading to significant under- and over-treatment.

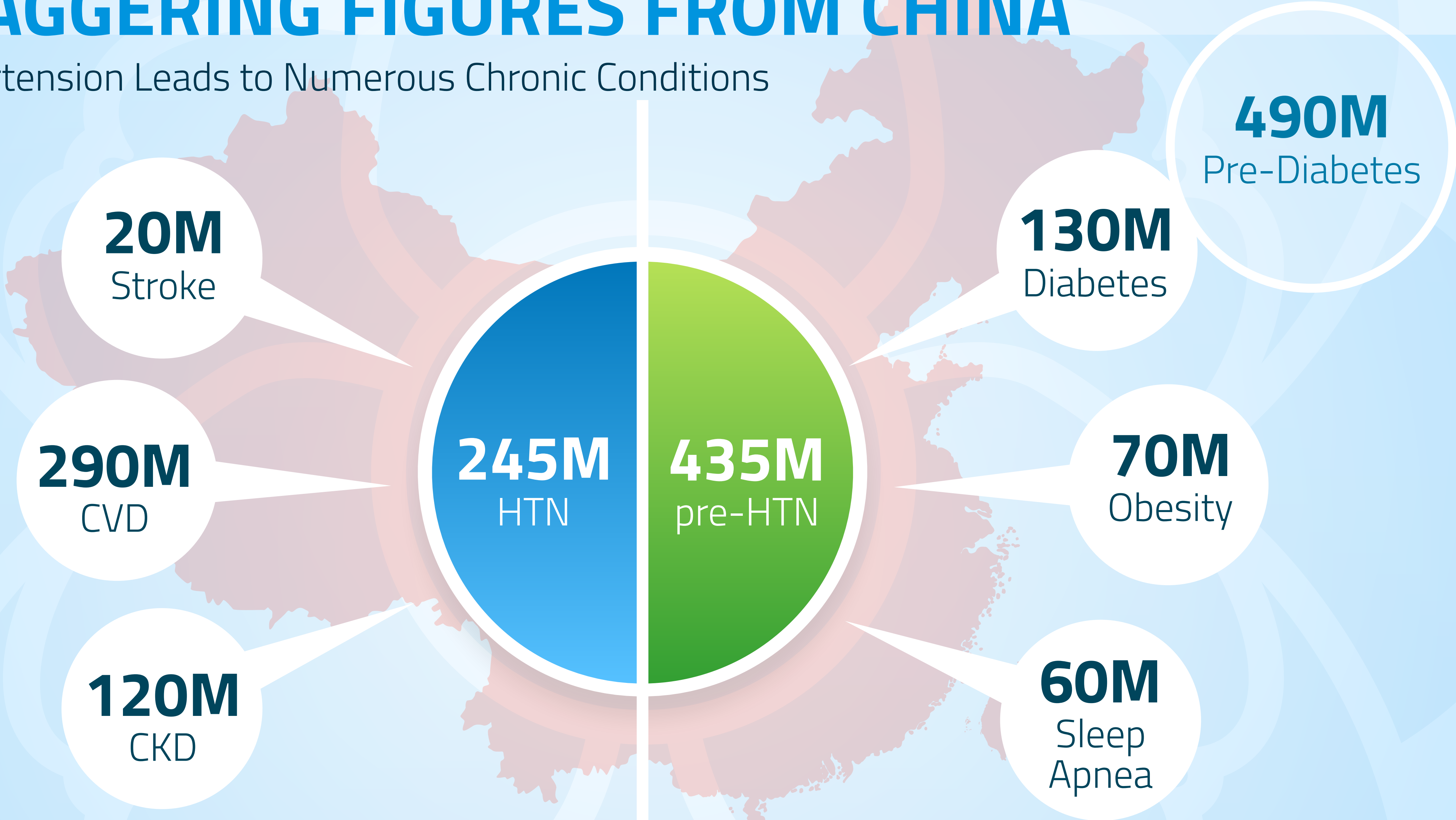
**WE MUST FIND A BETTER WAY TO DETECT CVD AND MANAGE PATIENT HEALTH OUTCOMES.**



- All Cardiovascular Diseases (CVD)**
- 10% Coronary Heart Disease
  - 9% Stroke
  - 5% Other Heart Diseases
  - 2% Diseases of Arteries, Arterioles & Capillaries
  - 1% Hypertensive Diseases
  - 1% Other Diseases of the Circulatory System

# STAGGERING FIGURES FROM CHINA

Hypertension Leads to Numerous Chronic Conditions



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# THE POWER OF CENTRAL PRESSURES

Advancing BP Management by Individualizing Drug Therapy

**Conventional brachial blood pressure** is taken from here with a pressure cuff on the upper arm

**Central pressure is from the ascending aorta,** and *this* is the pressure that causes stroke, heart attacks, and other central organ diseases.

But technology exists to accurately estimate central arterial pressure from features in the brachial pulse waveforms.

This has always meant to be an estimate of the **central pressure**, but much research over time has shown **lack of accuracy for brachial pressure.**

**Central pressures** have been thoroughly researched in the last two decades and shown to be **more predictive of CHF, coronary heart disease, stroke, arteriosclerosis and kidney disease than brachial pressure,** and they are also independently associated with diabetes and cognitive dysfunction.



## Our Flagship Medical Technology for Hypertension Management

### Significant Patent Portfolio and Clinically Proven Technology.

Our **XCEL SphygmoCor®** system allows specialist practitioners, pharmaceutical companies, as well as research institutions to **non-invasively measure central arterial pressure** in patients.

- Measuring central arterial pressure is the only way to accurately determine and predict pre-hypertension and arterial stiffness - the main precursors to key organ damage and cardiovascular disease.
- The system detects key parameters associated with CVD that are usually only detected with an invasive catheter.
- The only **FDA 501(k)-cleared and reimbursed** device for sale in the USA deemed to be substantially equivalent to an invasive catheter for all central measurements.

Over  
**1000**  
peer-reviewed  
studies

**4400**  
installations  
worldwide



 **Uniquely  
Competitive**

 **FDA  
Cleared**

 **Proprietary  
Technology**



# EXISTING PARTNERS & CUSTOMERS

Recognized by Top Healthcare Providers and Pharmaceutical Companies

6

Continents

34

Countries

44000+

Installations

## Pharmaceutical Companies



## Healthcare Providers

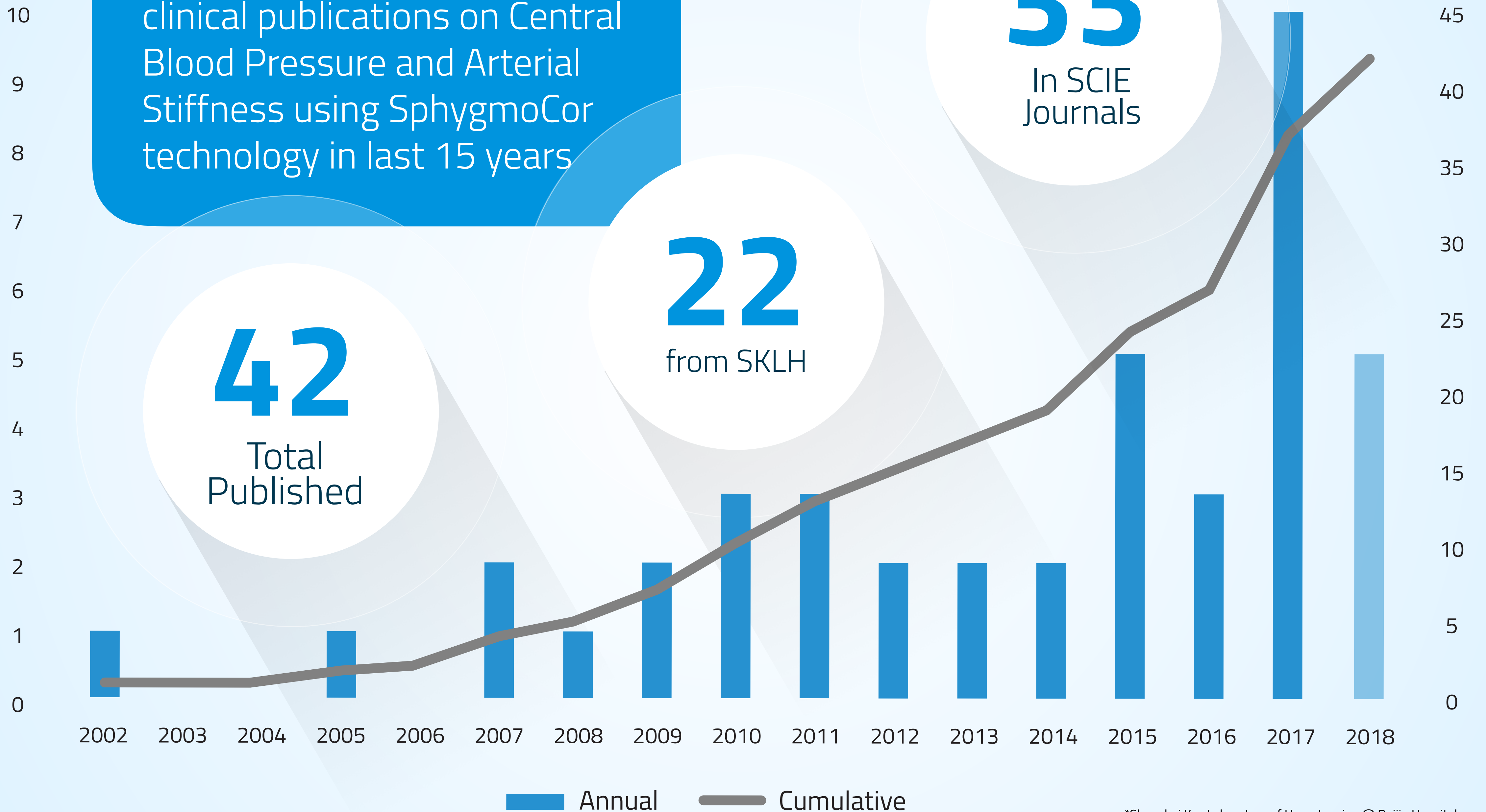


## OEMs



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Significant increase of Chinese clinical publications on Central Blood Pressure and Arterial Stiffness using SphygmoCor technology in last 15 years





# RECENT PUBLICATIONS FROM CHINA

Continued Publications in SCIE Journals from Tier 3A Chinese Institutions



*Zuo JL, et al.*  
*Central aortic pressure improves prediction of cardiovascular events compared to peripheral blood pressure in short-term follow-up of a hypertensive cohort.*



*Lu Y, et al.*  
*Comparison of Carotid-Femoral and Brachial-Ankle Pulse-Wave Velocity in Association With Target Organ Damage in the Community-Dwelling Elderly Chinese: The Northern Shanghai Study.*



*Yang L, et al.*  
*Association of central blood pressure and cardiovascular diseases in diabetic patients with hypertension.*



*Hu M, et al.*  
*Combined moderate and high intensity exercise with dietary restriction improves cardiac autonomic function associated with a reduction in central and systemic arterial stiffness in obese adults: a clinical trial.*



*Fu S, et al.*  
*Multimarker Analysis for Relation to Central Arterial Stiffness and Hemodynamics in a Chinese Community-Dwelling Population.*



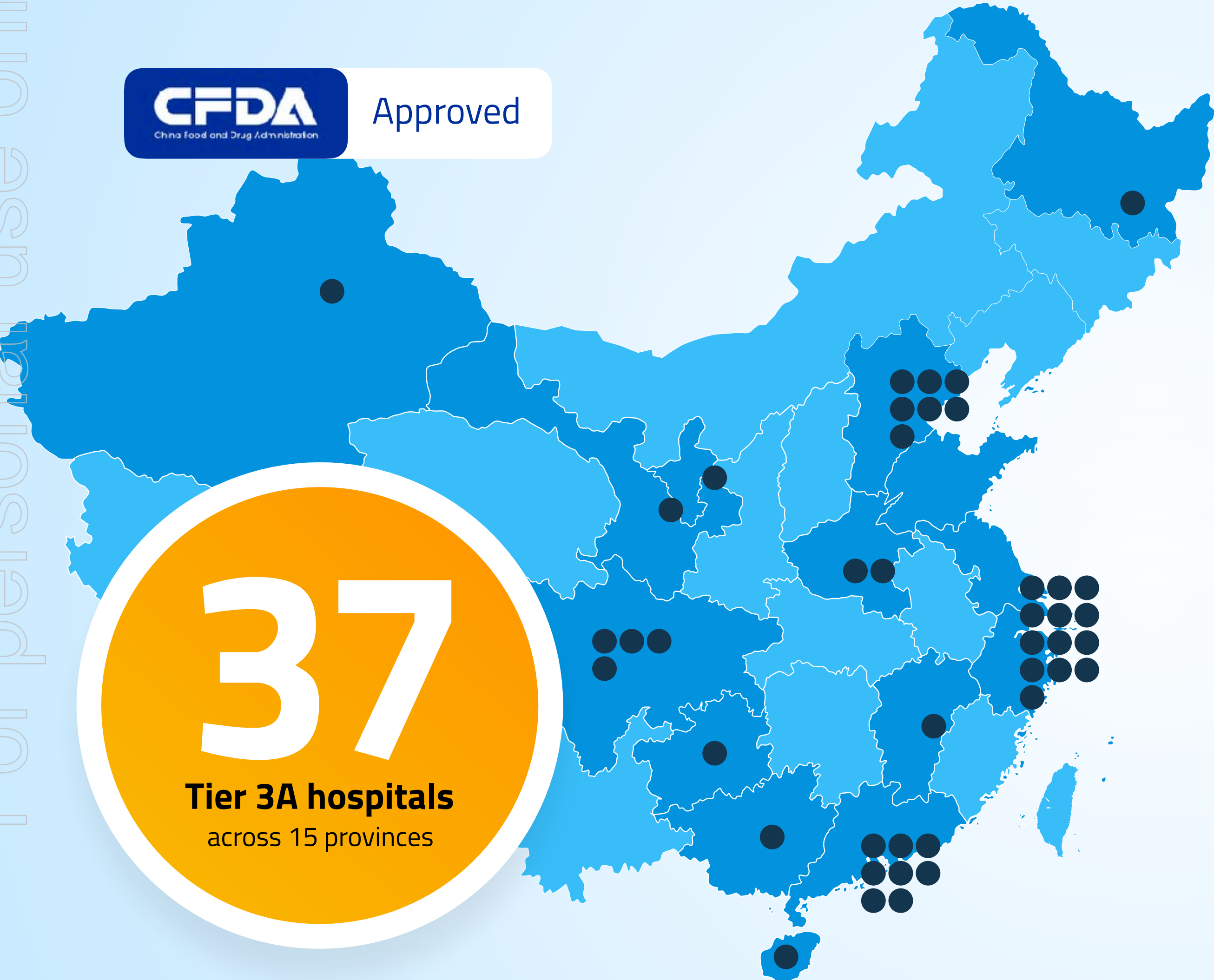


# CURRENT ATCOR USERS IN CHINA

Trusted by Top Tier Medical Institutions Across the Country



**37**  
Tier 3A hospitals  
across 15 provinces



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# CHINA MARKET DEVELOPMENT

Continue Growth in Hospitals and Expand into Telemedicine and Consumer Health

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## Hospital Market

Strengthen clinical marketing of central BP and arterial stiffness across various specialties

Establish OEM partnerships with vital sign monitor manufacturers to integrate AtCor technology



## Telemedicine Market

Focus on supplying clinically validated telehealth services and home health devices onto telemedicine platforms

## Consumer Market

Focus consumer education efforts on the dangers of arterial stiffness  
Establish technology partnerships with smart wearables maker and home BP monitor manufacturers to integrate AtCor technology

# ATCOR MEDICAL APIs

Our Comprehensive Portfolio for OEMs across the Spectrum



**HEALTHX**

For smart wearables



**HOMEX**

For BP monitors



**MEDX**

For vital sign monitors

Feature List	HEALTHX For smart wearables	HOMEX For BP monitors	MEDX For vital sign monitors
Heart Rate	✓	✓	✓
Augmentation Index	✓	✓	✓
Buckberg SEVR	✓	✓	✓
Reference Age	✓	✓	✓
Central BP - systolic/diastolic		✓	✓
Central pulse pressure		✓	✓
Pulse pressure amplification			✓
Mean Arterial Pressure			✓
Ejection Duration			✓
Reflection Magnitude			✓

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# ATCOR INSIDE - ATCOR *EVERYWHERE*

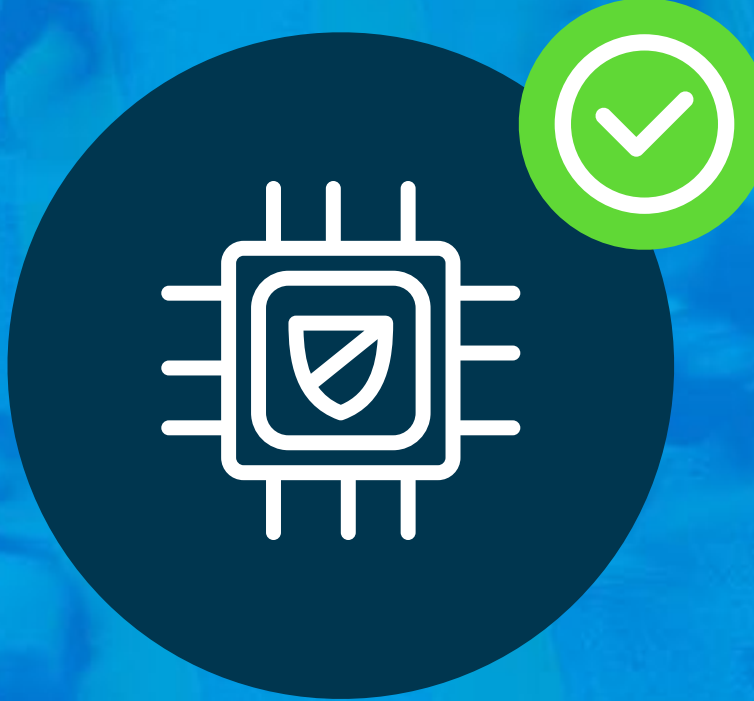
Flexible Integration to Maximize Adoption



Cloud-Based



Onboard Software



Embedded Chip

## INTEGRATION PROCESS



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# MEDX API

For Vital Sign Monitors

- For outpatient spot-check use
- Target care areas in hospital: **Cardiology, Nephrology, Endocrinology, Hypertension Clinic**
- Our most full-featured API with a comprehensive suite of proprietary central BP and arterial stiffness capabilities

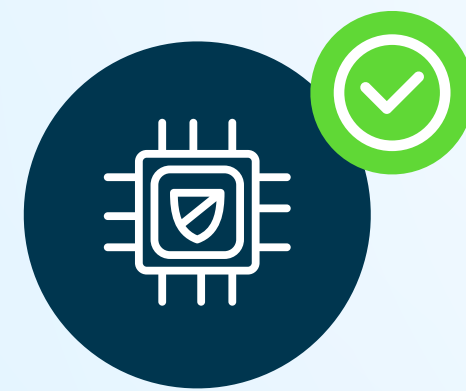
## INTEGRATION OPTIONS



Cloud-Based



Onboard Software



Embedded Chip



## FEATURES

- Augmentation Index
- Buckberg SEVR
- Reference Age
- Heart Rate
- Central Systolic Pressure
- Central Diastolic Pressure
- Central Pulse Pressure
- Pulse Pressure Amplification
- Mean Arterial Pressure
- Ejection Duration
- Reflection Magnitude



# HOMEX API

For Ambulatory & Home BP Monitors

- For non-hospital on-demand spot-check use
- Target devices: **ambulatory BP monitors and home-use BP monitors**
- Our mid-tier API featuring clinically useful and consumer-friendly central BP and arterial stiffness measurements



## FEATURES

- Cardiac Load
- Exercise Capacity
- Vascular Age
- Heart Rate
- BPX Central Systolic Pressure
- BPX Central Diastolic Pressure
- CVD Risk Score

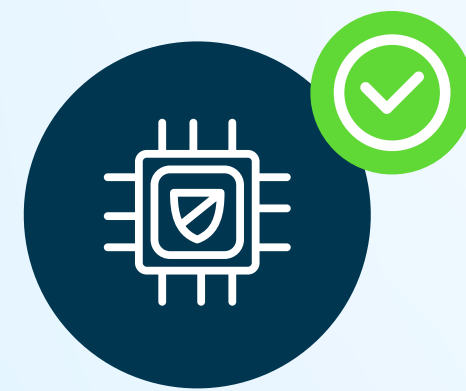
## INTEGRATION OPTIONS



Cloud-Based



Onboard Software



Embedded Chip



# LEVERAGE THE POWER OF AI

Enriching the Largest Wearables Market on the Planet

623k

Daily inpatient visits  
in China requiring BP  
monitoring

680M

Hypertensive and  
pre-hypertensive  
in China

43%

Urban Chinese  
consumers own  
wearable devices

50M

Annual shipment of  
wearable devices in  
China

1

Our  
Wearables  
Solution

Financial & strategic  
partnership to co-  
develop wearables that  
can detect hypertension,  
CVD and other health  
disorders.

2

Integrate AI analytics  
into smart wearable  
devices.

3

Incorporate CardieX IP  
and trademarks into  
proprietary consumer  
applications for health  
and fitness.



# HEALTHX API

For Smart Wearable Devices

- For daily use (continuous monitoring)
- Target wearables: **smart bands, smartwatches, smart earbuds**
- General health measurements related to arterial stiffness and cardiovascular function

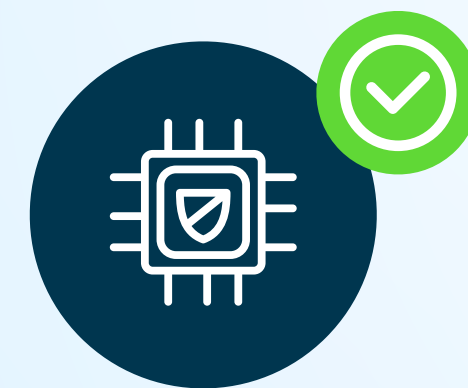
## INTEGRATION OPTIONS



Cloud-Based



Onboard Software



Embedded Chip



## FEATURES

- Cardiac Load
- Vascular Age
- Exercise Capacity
- Heart Rate



# PARTNERSHIP WITH BLUMIO

Co-Development of Next Generation Wearable Diagnostics

**Strategic and financial partnership focused on developing wearable technologies for consumer-focused cardiovascular health based on the AtCor algorithm IP from CardieX/AtCor and advanced BP sensing IP from Blumio.**

- Silicon Valley-based engineering and development team.
- Backed by Thiel Foundation (founded by Peter Thiel - PayPal co-founder and first investor in Facebook).
- Developer of specialized radar frequency sensors for cardiovascular disease, hypertension, and health monitoring.
- First phase trial completed at Macquarie University, and larger scale trial at Deborah Heart and Lung Center (USA) commenced in November 2018.
- Deborah continues to successfully collect reference blood pressure data from subjects. Trial will continue until we have extracted enough relevant data to allow us to refine our algorithms - which is the ultimate goal of the study.
- Targeting ambulatory blood pressure monitoring opportunity - USD\$8B annual global market.



**SEPARATELY PURSUING**

Confidential wearable and licensing technology partnerships with multiple parties.

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# NEW ADDITION: INHEALTH

Comprehensive Portfolio of Clinically Validated Telehealth Services

## Majority Acquisition of Leading Virtual Health Coaching and Telehealth Services Provider in USA.

- Providing digital, e-commerce and mobile tools for patients to connect online with health coaches as part of a patient care management program.
- Offering coaching programs based on multi-year published studies showing clinically significant health outcomes through use of inHealth's proprietary health coaching tools.
- Serving a USD\$25B industry in the USA - growing at a compound rate of 18% per annum.
- Executing significant contracts with Anthem (NYSE:ANTM, USD\$70B), the second largest health insurance company in the USA, and American Well, the largest Telemedicine provider in the USA.
- Adding significant value to the CardieX healthcare and technology ecosystem.
- Financially accretive and positive to CardieX group in a short timeframe.

Provides "**direct to consumer**" and "**direct to practitioner**" channels for CardieX products and services as well as new healthcare initiatives (wearables, medical devices and digital health).





# HEALTH COACHING IS THE MISSING LINK IN THE HEALTHCARE CHAIN

Any Device that "Mines" Patient-Generated Health Data Requires a Telehealth Solution

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## Data Mining Devices

 Fitbit (Sleep & Weight Loss)

 Garmin (Stress)

 ZIO (Arrhythmia)

 Blumio (Blood pressure)  
**blumio**

 AtCor XCEL (Blood pressure)  
**AtCor**

 Apple Watch (EKG)

 Dexcom (Diabetes)

TOO MUCH DATA - NOT ENOUGH INFORMATION


**inHealth**  
medical services


## Telehealth Coaching

**inHealth** provides the crucial link between data + diagnostics and better patient outcomes.

## Connected Devices

Amazon Alexa  
Google Home  
Apple HomePod

  
"Hey Siri, how can I lose weight?"

  
"Alexa, how can I reduce my blood sugar?"



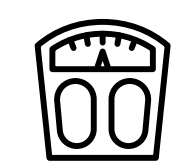
# INHEALTH CUSTOMIZED PROGRAMS

Designed to Drive Provider Revenue and Help Patients Meet Health Goals

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## Weight Loss Management

Nine different multidisciplinary Weight Loss programs focusing on Nutrition, Behavior and Fitness - all supported by inHealth-certified coaches.



## Diabetes Prevention

inHealth-certified diabetes prevention dietitians and programs that comply with CDC's DPRP standards.



## Sports Nutrition

inHealth-certified protocols for maximum performance and diet analysis services that include complete sports analysis.



LAUNCHING 2019

## Hypertension Management

Evidence-based protocols combined with inHealth-certified coaches help users stay accountable and bring about significant blood pressure reductions safely.



LAUNCHING 2019

## Sleep Health

Lifestyle intervention with weight management support from inHealth-certified coaches to improve sleep quality - from sleep hygiene to obstructive sleep apnea.



LAUNCHING 2019

## Mental Health

inHealth-certified clinicians help patients address psychological factors that can be tied to chronic diseases, such as depression or anxiety.



## Chronic Care Management (CCM)

For Medicare beneficiaries who have multiple chronic conditions like those listed above. Combine our programs!





# INHEALTH CUSTOMIZED PROGRAMS

Designed to Drive Provider Revenue and Help Patients Meet Health Goals

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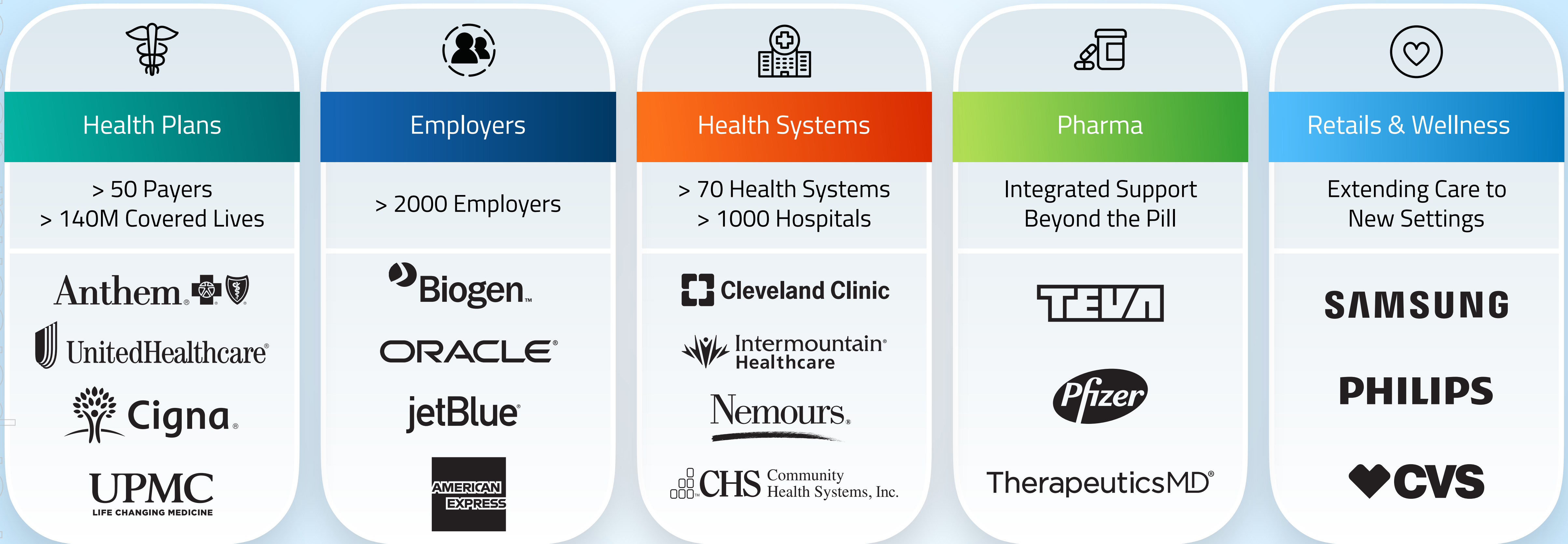




# CURRENT INHEALTH PIPELINE

Diverse Array of Corporate Telehealth Businesses\*

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\*via American Well partnership.

Plus > 2M DTC Enrollments

# BIG HEALTH

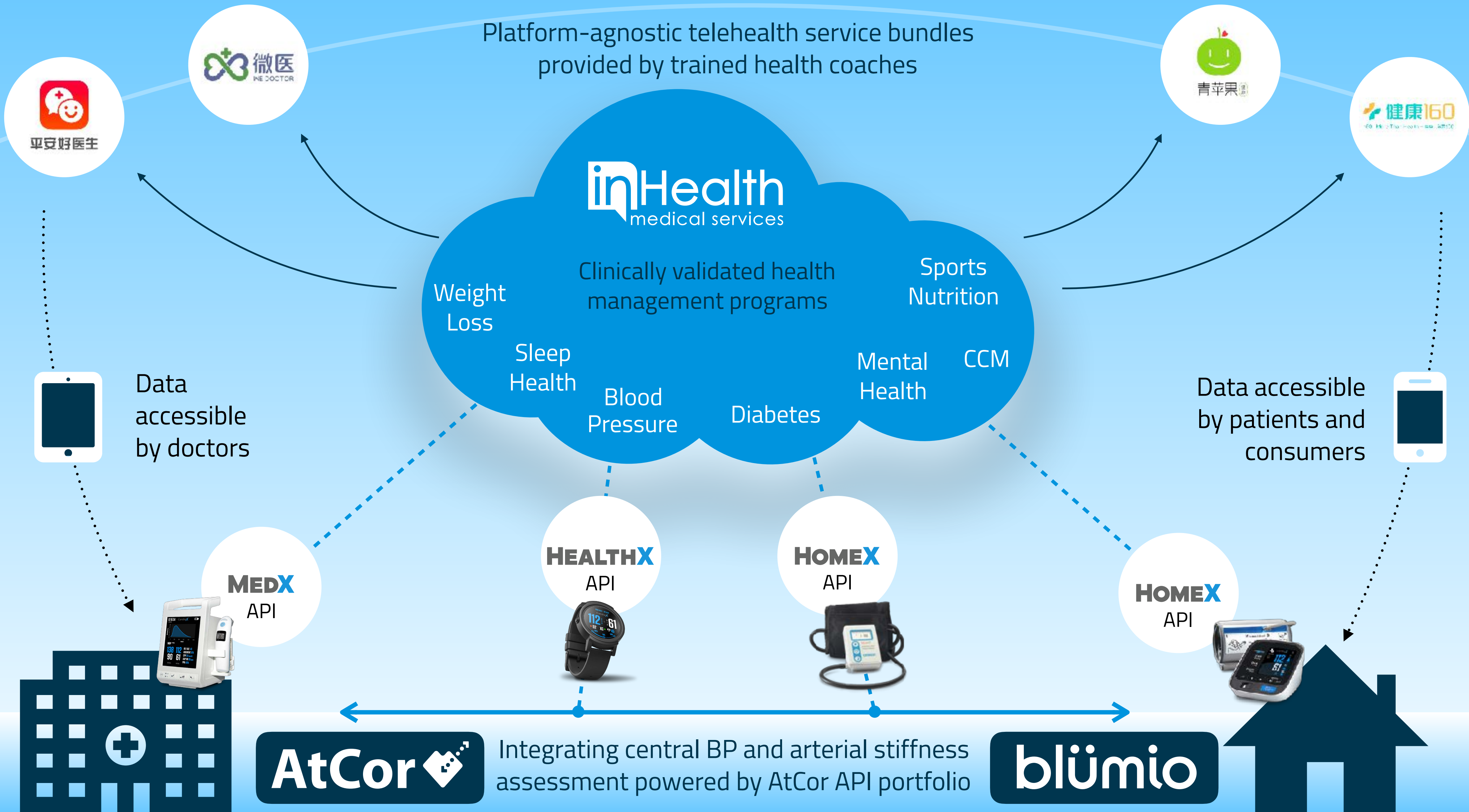
is not just about the volume of health data, it's about

**CLINICAL EVIDENCE** + **ACTIONABLE INSIGHTS**



# THE CARDIEX ECOSYSTEM

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## **IN CHINA**

Create local presence

## **FOR CHINA**

Build local partnerships

## **BY CHINA**

Leverage local manufacturing



# THANK YOU

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