



Establishment of the Joint Ventures between Shionogi and Ping An Group, “Ping An-Shionogi”, and Business Plan of Ping An-Shionogi

October, 13, 2020

Shionogi & Co., Ltd.

Ping An Insurance (Group) Company of China Ltd.



Agenda



Time		Title	Presenter
0:00~0:05	5min	Opening	Shionogi; Vice President, Corporate Communications Department Yoshimasa Kyokawa
0:05~0:20	15min	Background and significance of the establishment of the joint venture	Shionogi; President and CEO, Isao Teshirogi
0:20~0:30	10min	Strategic Collaboration with Shionogi	Ping An Group; Co-CEO, Jessica Tan
0:30~1:00	30min	Q&A session 1	
1:00~1:25	25min	Business Plan of Ping An-Shionogi	Chairman and CEO, Tatsumori Yoshida
1:25~2:00	35min	Q&A session 2	



Background and Significance of the Establishment of the Joint Venture

Isao Teshirogi, PhD.

President & CEO, Shionogi & Co., Ltd.



Background and Aim for Establishment of Joint Venture

- On behalf of both companies -

Evolution of Cutting-edge Technologies

- **Innovations in IT/AI technologies**
 - Digital transformation
 - An era in which five senses can be reproduced with 5G⇒6G
- **Collection and analysis of personal health information as big data**
- **Entry of non-pharma companies into the healthcare industry**
 - Business opportunities through the fusion of healthcare and IT

Society and Customers

- **Disruptions in social system and change in values**
 - Coronavirus and post-coronavirus as an exemplar
- **Narrowing of medical information gap**
 - Easier for patients to access medical information
 - An era in which patients themselves select medical care

Diversification of Healthcare Needs

There is a needs to provide individually optimized total healthcare solutions

Ping An-Shionogi

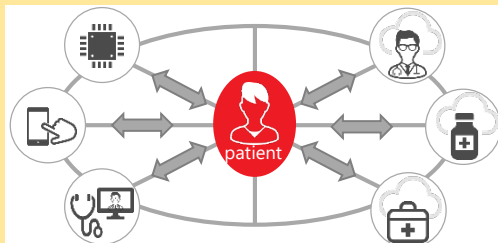
-Collaboration of Different Strengths-



- **Largest insurance/financial service provider in China**
 - Public and private insurance network
- **Established healthcare ecosystem**
 - AI technology, Big data
- **Strong Brand**

- **Highly efficient research and development capability to create self-originated pipelines**
- **Disease insights to infectious diseases/CNS* area**

Building a platform
to provide healthcare services



Solving social issues
related to healthcare



Ping An-Shionogi

Building a total healthcare platform to meet healthcare needs

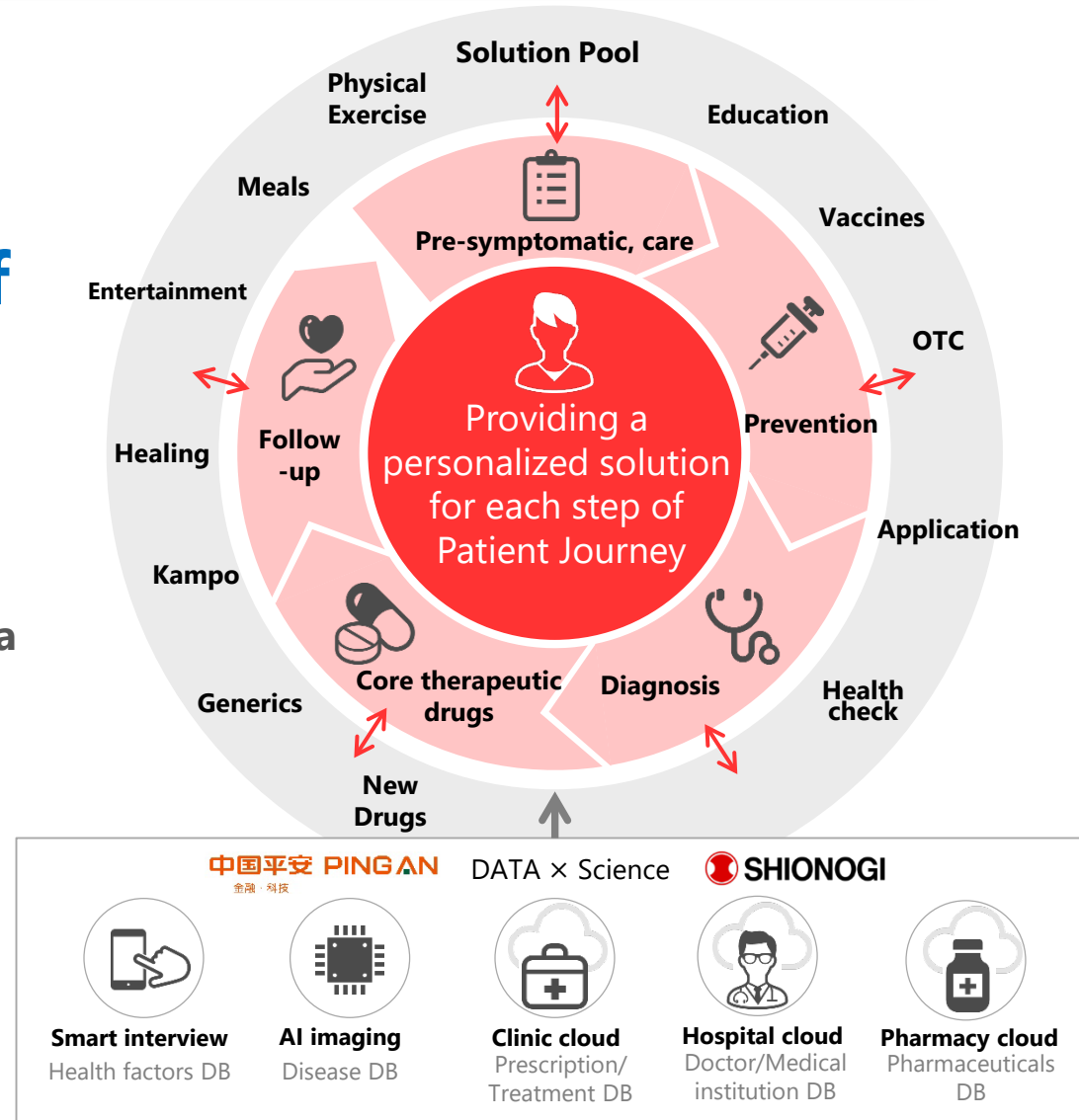
Aim of Ping An-Shionogi

- For the Future of Healthcare -



Shaping the Future of Healthcare

- Providing healthcare solutions to patients and society, contributing to the everyone's health
- Taking on the challenge of building a platform for total healthcare



Direction for the Shionogi and the significance of the alliance

Vision 2030

Building Innovation Platforms to Shape the Future of Healthcare

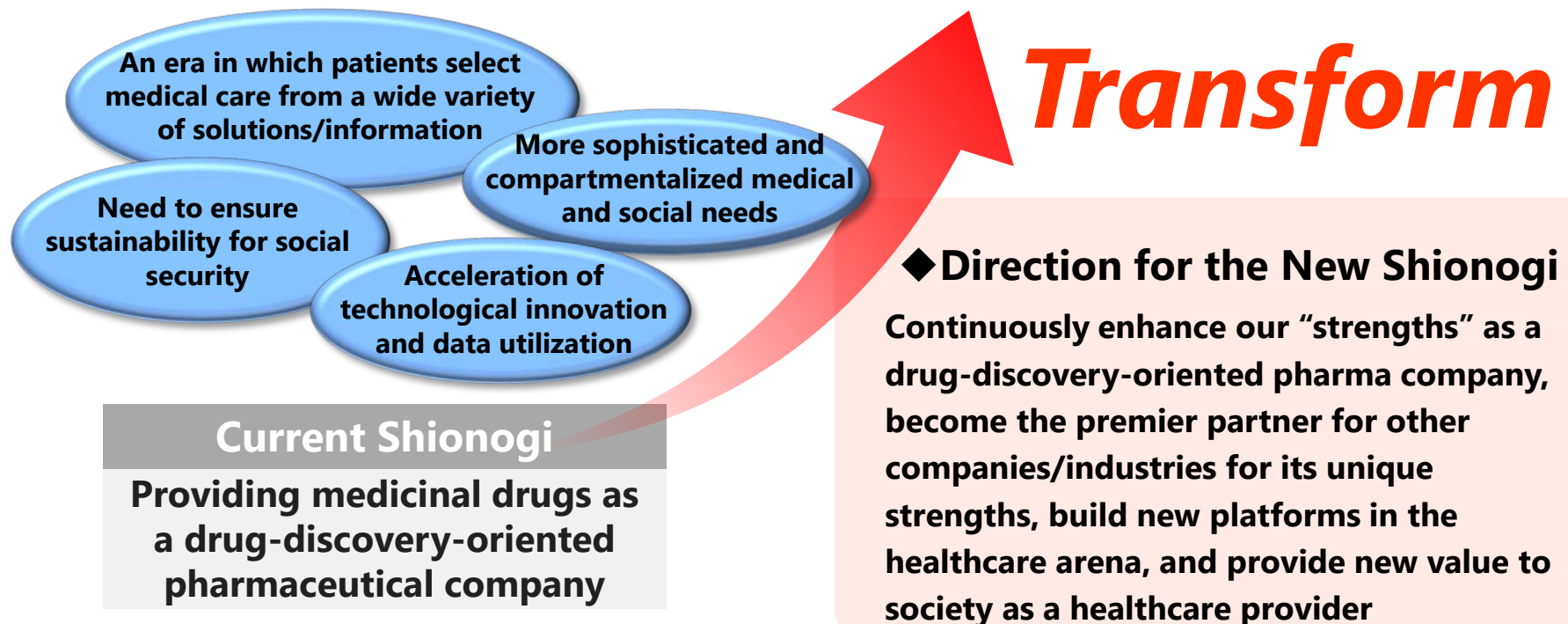
As Shionogi family we promise to:

- **Imagine new ways to deliver innovation, and catalyze the formation of new healthcare platforms**
- **Create innovative products and deliver them worldwide compliantly with high quality at a fair price**
- **Embrace social responsibility and contribute to longer, healthier lives everywhere**

Delivering value by providing healthcare as a service

(Healthcare as a Service : HaaS)

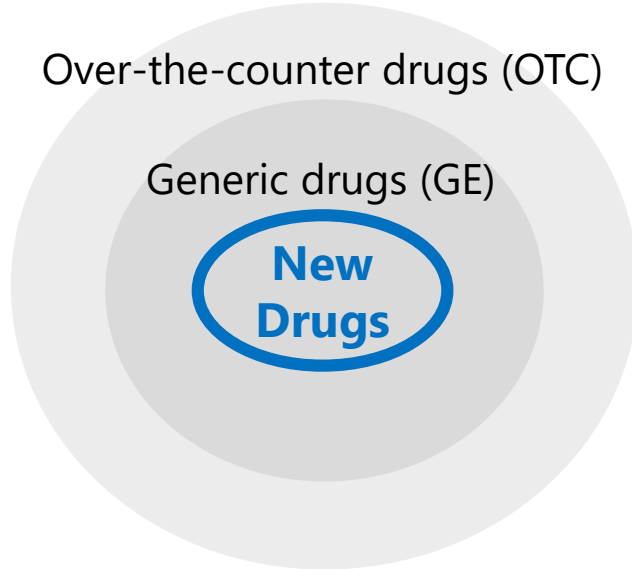
- Generate new value and solve problems faced by patients and society through collaborative invention with a diverse range of partners
- Augment the strengths we have acquired through the discovery and development of “medicinal drugs,” and leverage those strengths



Concept of HaaS

Conventional business positioning
- As a drug discovery-based
pharmaceutical company-

Product category from a
company perspective



Business positioning after 2020
- As a HaaS Company-

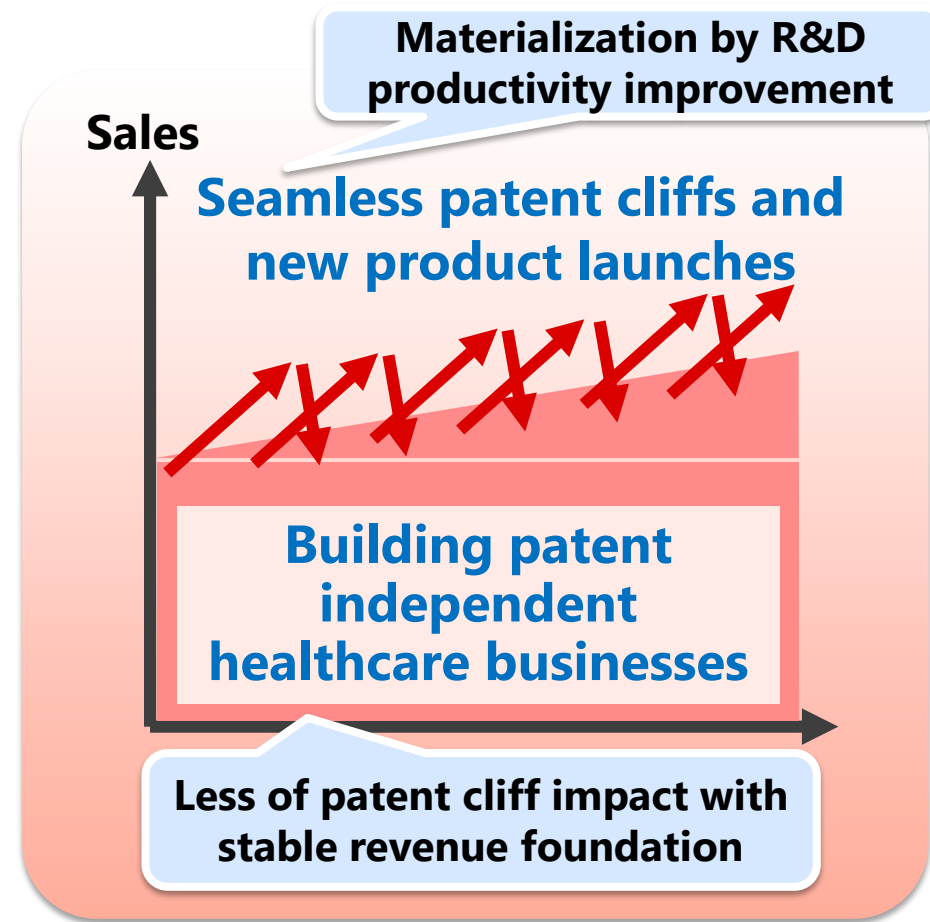
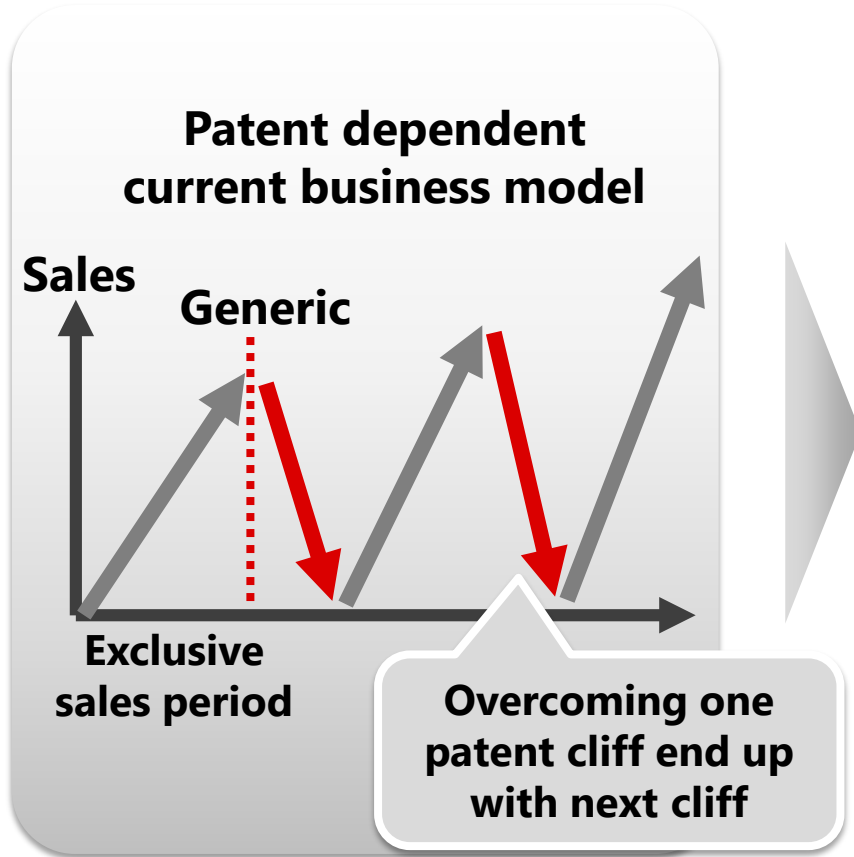
Providing solutions from the customer
(patient) perspective

⇒ Difficult to build by one company alone



Providing solutions that patients need, not an extension
of the existing business that only provides “medicines”

Challenge the Pharma Business Model



Transform the pharma business model by building the healthcare solution providing platform with Ping An Group

Significance of the Alliance to Shionogi



To achieve 2030 Vision and achieve sustainable growth,

1. Partner for collaborative innovation for the future of healthcare



2. Realization of business development in China and Asia



3. Transformation from the traditional pharmaceutical business model that continues to overcome patent cliffs



Ping An Group is the best partner that has strengths which Shionogi does not have and can generate synergistic effects

- Merging the healthcare big data and science, accelerating Asian expansion centered on China
- Leveraging the strengths of the alliance that we have cultivated, we will realize value creation of 1+1 above 3

Transform to New Pharma Business Model



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Merging different
strength

 **SHIONOGI**

Beyond Pharma

- ✓ Achieve the discontinuous evolution to the new pharma business model that provide comprehensive healthcare solutions

New businesses
Pharma re-engineering businesses

Current pharma businesses



Smart pharma businesses



Strategic Collaboration with Shionogi

Oct. 13, 2020



Healthcare Environment in China

- Healthcare market in China is expanding driven by aging population, consumer affluence and policy support
- Chinese healthcare market size is expected to grow from RMB 6trn in 2019 to RMB 16trn in 2030
- Healthcare ecosystem stakeholders face significant pain points

Healthcare Market in China



Ageing Population

12.6%

People over 65 years old



Consumer Affluence

9%

YoY growth of disposable income



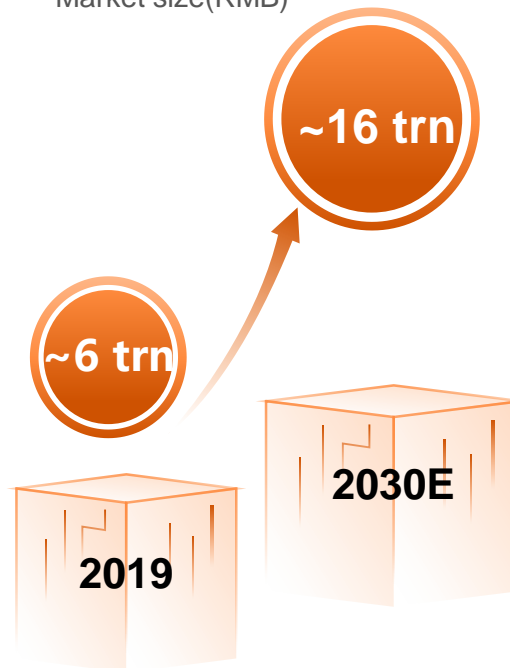
Policy Support

Healthy China 2030

National strategy

Market Potential

Market size(RMB)



Pain Points



Government

- Lack of systematic and efficient supervision
- Large shortage of general practitioners
- Severe over-prescriptions/unnecessary medications
- Low awareness of disease



Payers

- Mismatch between growth of income (10%*) and payment (12%)
- Less coverage by commercial insurance



Providers

- Under significant stress to provide quality services



Physicians

- Insufficient medical staff support & sub-standard medical care quality






Patients

- Long waiting time
- Expensive treatment
- Inconvenience in social health insurance

Challenges and Opportunities in Chinese Pharmaceutical Market

- Chinese Pharmaceutical Market will grow to **1,474 billion** RMB in 2025, the proportion of Chinese, Innovative and Generic medicine are respectively **32%, 14%** and **54%**.
- Three market segments are facing challenges like 'few standard', 'high R&D cost' and 'low margin'.
- Partied with Shionogi, Ping An aims to seize the giant promising value by becoming the 'rule maker', 'Digital enabler' and 'value integrator'.

	Market Size (2025, billion RMB)	Challenges	Ping An Opportunities
 Chinese Medicine	477	<ul style="list-style-type: none"> Dispersion of varieties, the lack of standard Dispersion of channels, the commotion in price 	<ul style="list-style-type: none"> Establish and control more than 500 end-to-end standards of trace-to-the-source Chinese Medicine
 Innovative Medicine	201	<ul style="list-style-type: none"> Fast rising cost of R&D Long cycle of R&D 	<ul style="list-style-type: none"> Digitalize 300 of the pharmaceutical companies with advantages like RWS and digital marketing
 Generic Medicine	796	<ul style="list-style-type: none"> Low margin of similar competitive medicine Growing scale of centralized procurement 	<ul style="list-style-type: none"> Develop new applications of generic medicine, and create new values over 10 billion

Significance and Advantages of Alliance with Shionogi

- Alliance of Ping An and Shionogi is enabled by **3 key strengths**: professional pharmaceutical capability, world-leading Big Data and health-tech and online, offline distribution channels

Alliance of Ping An and Shionogi

Professional capability as pharma



- R&D experience for more than **60** years
- Professional pharmaceutical research, development, manufacturing, etc
- Original pipeline ratio of **69%**, development success rate of **35%**

Largest Big Data and health-tech platform



- World **2nd** most health-tech patent applications
- Strong healthcare big data (including RWD) and AI analytics for maximizing values of data and new business development
- Developing AI-based new production & quality management system(QMS)

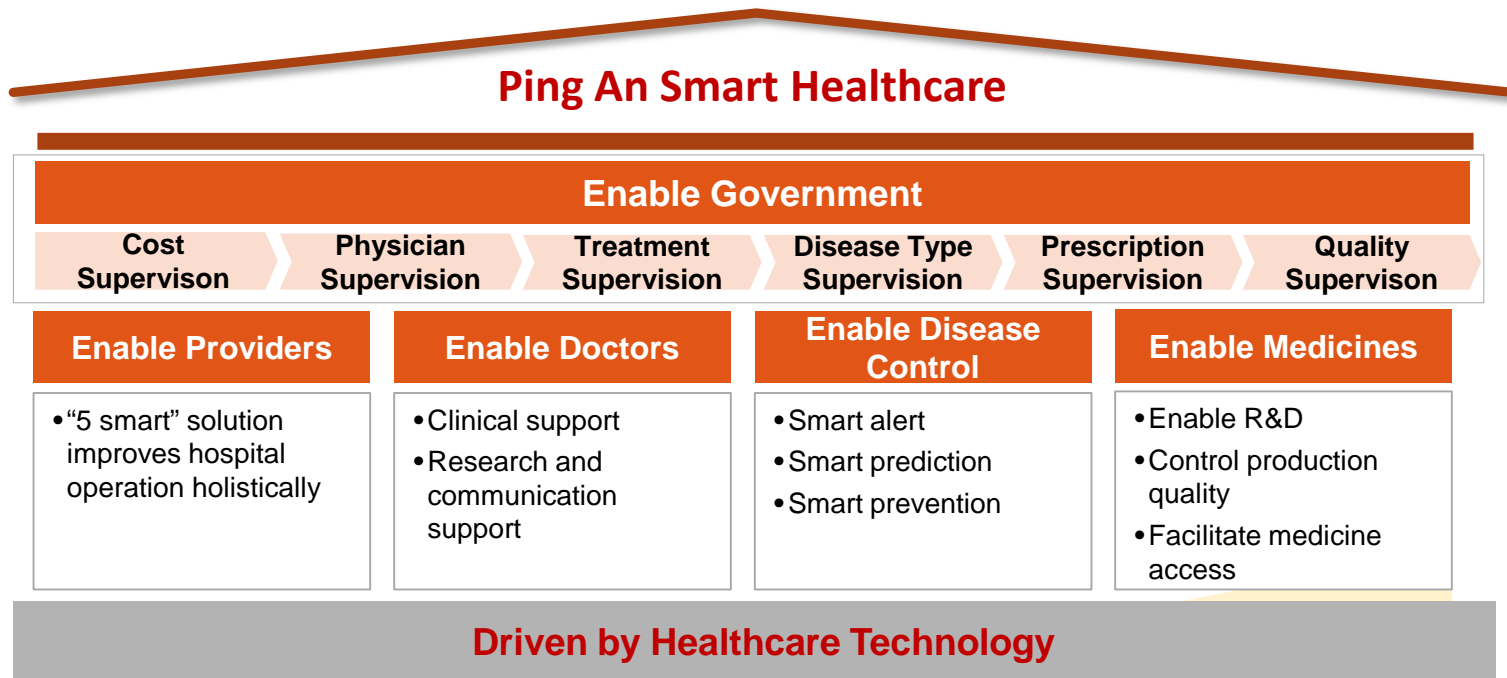
Strong distribution platform



- Close collaboration with China's largest online healthcare platform, enabling an efficient sales model without broker
- Extensive Partnership with **110,000** pharmacies and over **100,000** in-house medical team(1# in China)

Ping An Smart Healthcare Overview

- Ping An focuses on “Smart Healthcare”, healthcare system based on digital technology such as AI and IT
- 4 pillars for Solution: Providers, Doctors, Disease control, Medicines.
- Shionogi will be the best partner to work on “Medicines”.



SHIONOGI Top New Drug R&D Capabilities

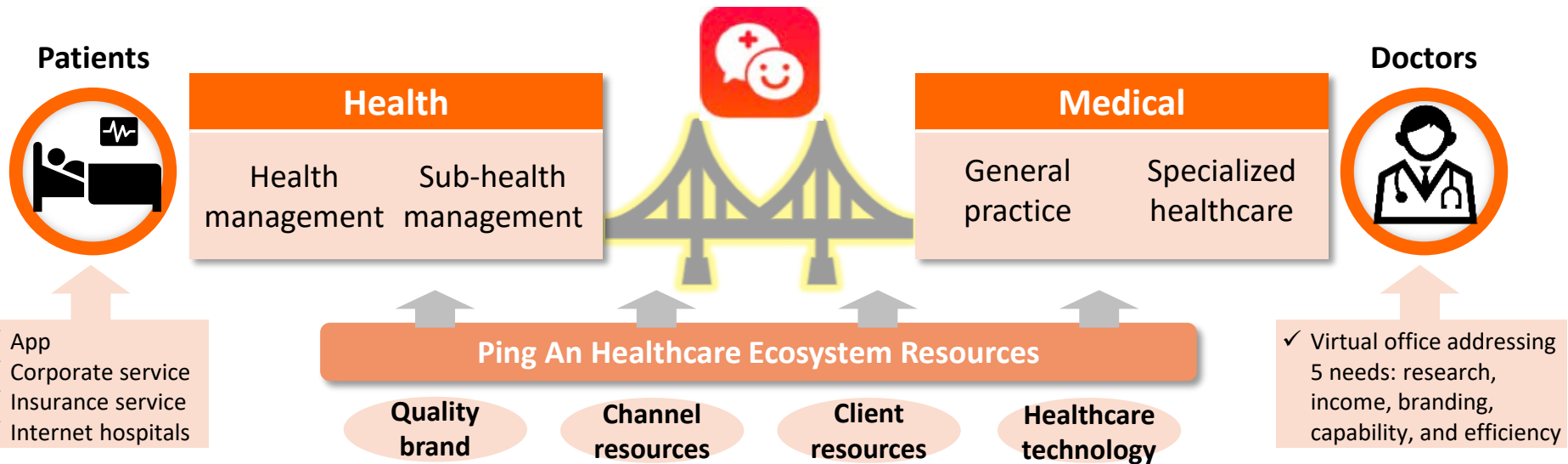
Medical data in Real-World-Data/Evidence Research

Ping An Good Doctor Overview

- Leading internet healthcare service provider in China
 - ✓ Portal: 346mn registered users, 830k daily queries, 67mn MAU
 - ✓ 1.8k+ In-house medical staff & 10k+ External medical experts
 - ✓ Offline partners: 110k+ pharmacies, 49k+ clinics, 2k+ health check-up centers
- Bridge between patients and doctors



Bridge between patients and doctors



Three Focus Areas of Collaboration with Shionogi

- Leveraging its strength and assets, together with Shionogi, Ping An will address data-driven new drug development & drug repositioning, development of AI-based new production & quality management system, and sales & distribution of Shionogi's drugs in China.



Drug Development

- Develop drugs in line with market demands
- Collaborate with Ping An Smart Healthcare and HealthTech could facilitate new drug development in China



Drug Distribution

- Provide drugs and services that meet needs of patients
- Channels from Ping An insurance, Good Doctor and healthconnect can be used to serve patients and distribute drugs



Data-driven AI drug discovery

- Largest medical database empowers AI platform to discover new drugs through molecular association prediction
- Leading AI technology of Ping An HealthTech could be the engine of drug discovery

Business Plan of Ping An-Shionogi

October, 13, 2020

Ping An-Shionogi

Chairman & CEO

Tatsumori Yoshida

Agenda

- 1. Overview of Ping An-Shionogi**
- 2. Overview of Business Strategy and each Businesses**
- 3. Sales Vision**

Overview of Ping An-Shionogi

Overview of Ping An-Shionogi (Shanghai, Hong Kong)

	Shanghai	Hong Kong
Company	平安塩野義有限公司* Ping An-Shionogi Co., Ltd.	平安塩野義（香港）有限公司 Ping An-Shionogi (Hong Kong) Limited
Chairman & CEO	Tatsumori Yoshida	Tatsumori Yoshida
Capital	45 billion yen	5 billion yen
Head Quarter	Shanghai, China	Tsim Sha Tsui, Hong Kong, China
Business description	<ul style="list-style-type: none"> • Research, development and sales of pharmaceutical and clinical testing reagents • IT technology development and services • Business investment 	<ul style="list-style-type: none"> • IP license management • Import and export of goods for Asian countries • Business investment • Stock holdings • Financial services
Fiscal year end	December, 31	March, 31

Synergistic Divergence of Professionals

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Professionals of healthcare big data and AI analytics for maximizing values of data and new business development

+

 **SHIONOGI**

Professionals of pharmaceutical research, development, manufacturing, distribution and business management


Synergy

平安塩野義

PING AN-SHIONOGI

Overview of Business Strategy and each Businesses

External Environment of Healthcare Business in China

Pharmaceutical market (2018) *2

No.2 (Japan 3rd) 

¥15 trill. (Japan ¥10 trill.)



Growth rate

113% (Japan 98%)

Healthcare market (2019)



2019: ¥90 trill.

2030: ¥250 trill.

Growth rate 278 %

Population (2018) *1

No.1 (Japan 10th)

1.39 bil. (Japan 130 mil.)

Healthcare environment

Wait time : 3 hours

Medical consultation : 5 min.

Medical expenses : huge



AI related patent application (2017) *3



No.1 (Japan 4th)

6,858 appli.
(Japan 803 appli.)

*1 The World Bank - World Development Indicators - Population, total (2018)

*2 IQVIA World Review Analyst 2008,2013、2018年はGlobal Use of Medicine in 2019 and Outlook to 2023 ,IQVIA Market Prognosis, Sep 2018

*3 https://www.jpo.go.jp/e/system/patent/gaiyo/ai/ai_shutsugan_chosa.html

Efforts to Solve Medical Problems in China

(in 2030)
Healthcare market
expected to expand to
250 trillion yen

(compared with Japan)
Population is more than 10
times, but pharmaceutical
market is 1.5 times

High-priced medical
services with low
convenience in the medical
environment

Social issues assumed from the market environment

Issues



increasing
healthcare costs



regional disparities
in healthcare



patient
satisfaction



Solutions

“access to appropriate treatment”



To provide individually
optimized solutions

**“high-quality and fair-
price pharmaceuticals”**



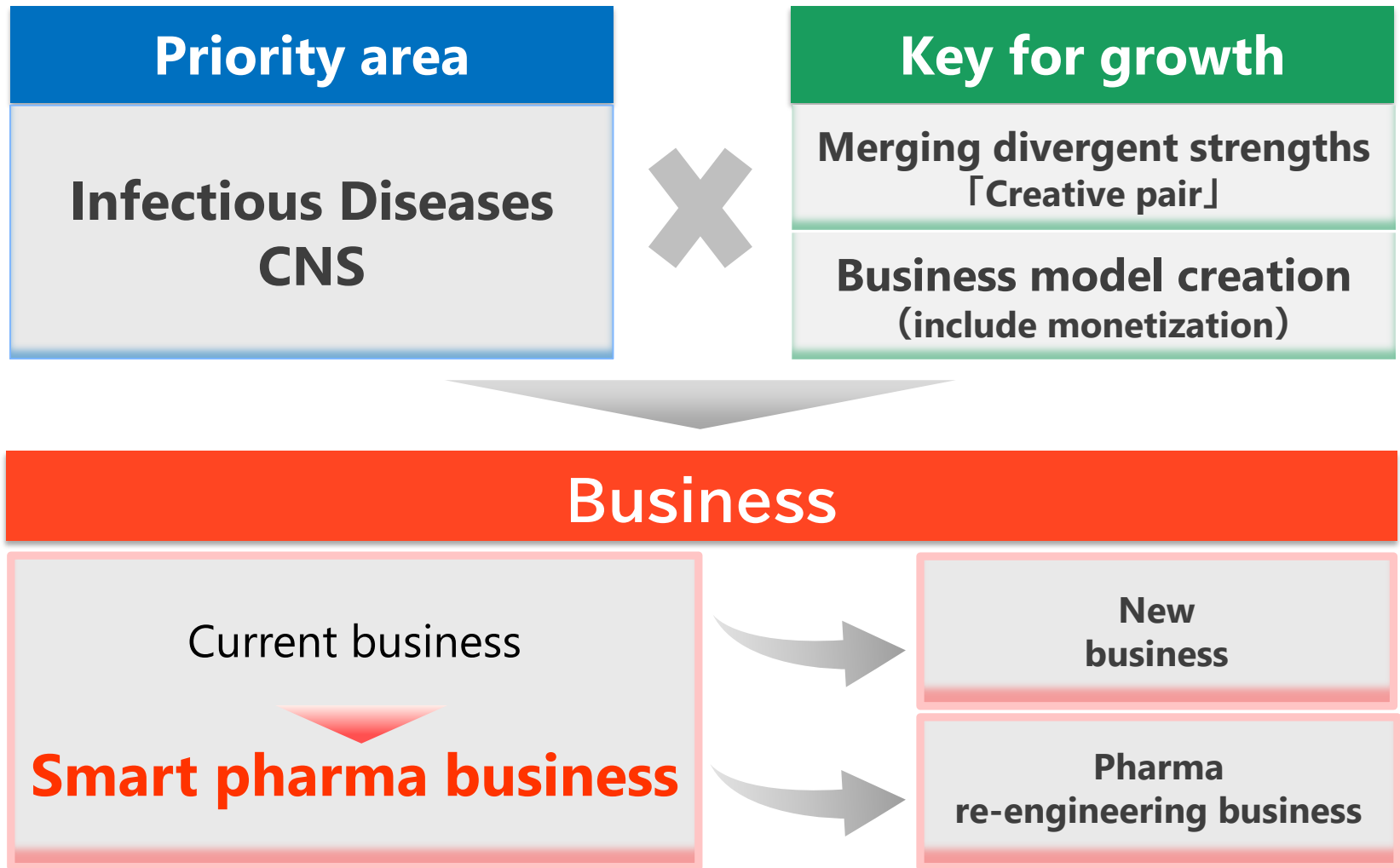
Improving productivity in the
pharmaceutical value chain



Medical Network and Healthcare Platform of Ping An Group

Business Strategy

**Steady business management by utilizing assets of both companies
+ 『Shaping the future of healthcare』**



Direction of business activities

Steady business management by utilizing assets of both companies



① Drug distribution : collaboration with online healthcare

Providing drugs and services that meet the needs of patients



② Drug development : New drugs development in China
Development and distribution of
new drugs discovered by Shionogi
(antibiotics, vaccines etc..)

Shape the future of healthcare



③ Data driven research : New challenges with Data x Science

Providing individually optimized healthcare solutions
Smart factory / R&D process transformation

**Realize innovation and creation by
steady business management**

1, Collaboration with Online Healthcare

Distribution Channels and Planned Numbers of Products for Launch

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Insurance

Internet service users **560 mil.**

Retail customers **210 mil.**

Online healthcare platform

Partnered Pharmacies **over 110,000 pharmacies**

In house Medical Team **1800 + staff**
No.1 in China



Ping An-Shionogi

Products scheduled to be launched (until 2024)

20 or more products (preliminary plan)

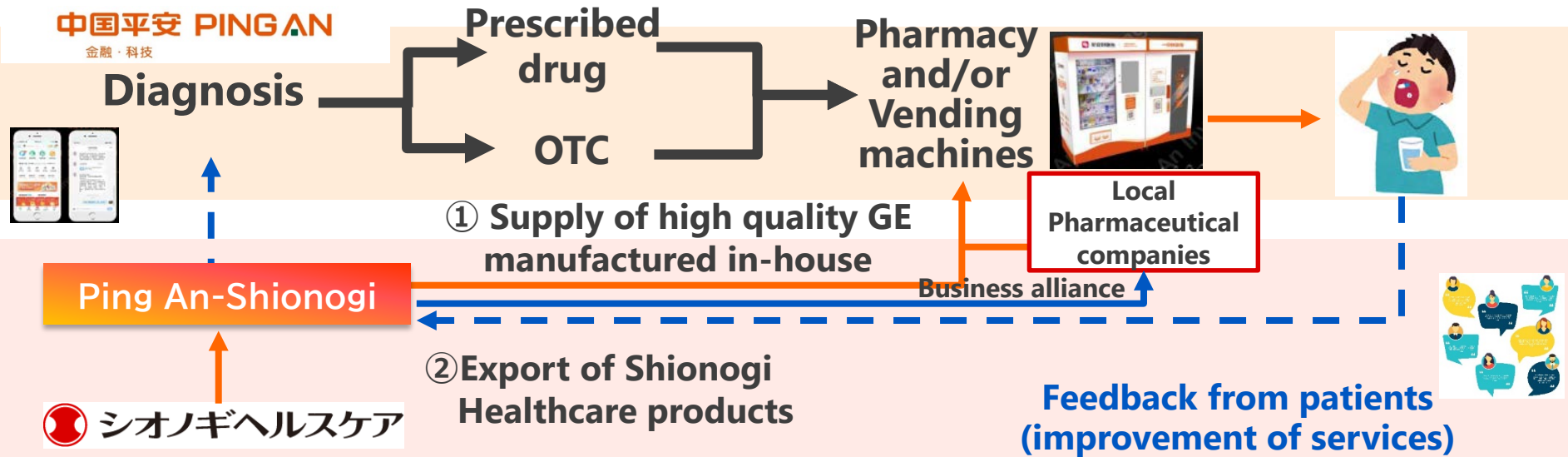
Calendar Year	2020	2021	2022	2023	2024
Generic	4	3	2	2	2
OTC	1	4	2	4	3
Total	5	7	4	6	5

(including introduced products)

Contribute to revenue from early stage (steady management foundation building) by continuing launch of products into Ping An Group sales channels

An Example of Flow of Products and Services

Highly efficient sales model without a broker



① Supply of high quality GE manufactured in-house

《 Major awards of Nanjing Factory 》



Jiangsu Province
High-tech Enterprise



Nanjing City Excellent
Enterprise

② Export of Shionogi Healthcare products

STEP I

- Scheduled to start supplying health foods mainly that can be exported promptly



STEP II

- For OTCs that require approval from the authorities, we will start supplying them after obtaining approval.

2, New Drugs Development in China

(Reference) Societal Issues of Cancer and Infectious Diseases in China



Healthy China 2030*

Actions to prevent from

- cardiac/cerebrovascular diseases
- **Cancer**
- chronic respiratory diseases
- diabetes
- **Infectious diseases**

Carbapenem-resistant rate of *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae* bacillus, *Escherichia coli***

Carbapenem-resistant <i>Acinetobacter baumannii</i>	56.1%
(resistant rate in ICU) Carbapenem-resistant <i>Acinetobacter baumannii</i>	81.2%
Carbapenem-resistant <i>Pseudomonas aeruginosa</i>	19.3%
Carbapenem-resistant <i>Klebsiella pneumoniae</i> bacillus,	10.1%
Carbapenem-resistant <i>Escherichia coli</i>	1.5%

Issues of cancer pain relief

- the amount of opioid prescriptions is expected to increase with the promotion of palliative care, but on the other hand, low awareness of opioid side effects

Issues of infectious diseases treatment

- Increasing antimicrobial resistance (AMR)
- Inappropriate use of antimicrobial drugs

Issues of infectious disease prevention by vaccines

- More convenient administration routes other than injection
- Varieties of COVID-19 vaccines

* http://www.gov.cn/zhengce/content/2019-07/15/content_5409492.htm

** NCCPAA & CARSS 2019

Providing Solutions to the Societal Issues in China by Drug and Vaccine Development

Antimicrobials 「Cefiderocol」

- Providing new options to multi-drug resistant gram-negative bacteria infection treatment
- Effective to WHO's all three top priority carbapenem resistant bacteria



Launched in
U.S.A, EU

Opioid-induced constipation treatment 「Naldemedine」

- Effective pain control
- Appropriate use of opioids
- Improving QOL of cancer patients



Launched in
U.S.A, EU,
Japan

Providing to patients as soon as possible by taking advantage of the clinical data used for approval in US, EU and Japan

Solving Societal Issues in China by Novel Vaccines

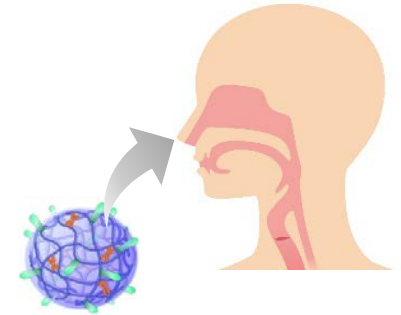
UMN Addressing Unmet Medical Needs
株式会社UMNファーマ



Vaccine

- New manufacturing technology
- New administration route technology

 **HanaVax**



cationic nanogel delivery formulation *

New manufacturing technology

- BEVS** technology can save time for production, which allows faster and timely vaccine supply
- Stable vaccine production in terms of product efficacy and yield compared to inactivated vaccine

New administration route technology

- Simple nasal administration by cationic nanogel delivery formulation
- Prevent from infection itself
- Likely to work by cross-protection even if the epidemic pathogen are different from prediction

Contribute to the prevention of infectious diseases by utilizing nasal administration and recombinant protein vaccine

* HanaVax's cationic nanogel delivery formulation provides a protective carrier for antigens and consists of a polysaccharide pullulan molecule modified with cholesterol and cationic amines. The nanogel helps antigens increase their retention on the mucosal surface and their gradual uptake by the immune cells. This effectively initiates the induction of both mucosal and systemic immunity. Figure: [Nature](#). 2010 Jun; 9: 572-578

** Baculovirus Expression Vector System

3, New Challenges with Data x Science

R&D Concept - Data driven research -

Lifestyle data

Behavior
pattern

Attribute
information

Sleep

Genes

Voice

Activity



Precise diagnosis and treatment data

fMRI, brain waves



Treatment A works



Treatment B works



Digital device C works

Strength of both companies

- ✓ Pipelines of Shionogi
- ✓ Knowhow of drug development and diseases understanding

- ✓ Healthcare services of Ping An Group
- ✓ IT platform (data collection and analytics technology)

Building a patient stratifying platform by linking lifestyle and diagnosis data to treatment responses

R&D Concept - accelerating data driven drug discovery -

Current

Limited and fragmented data



Low success rate

Our aim

Fast and precise data analytics of big data

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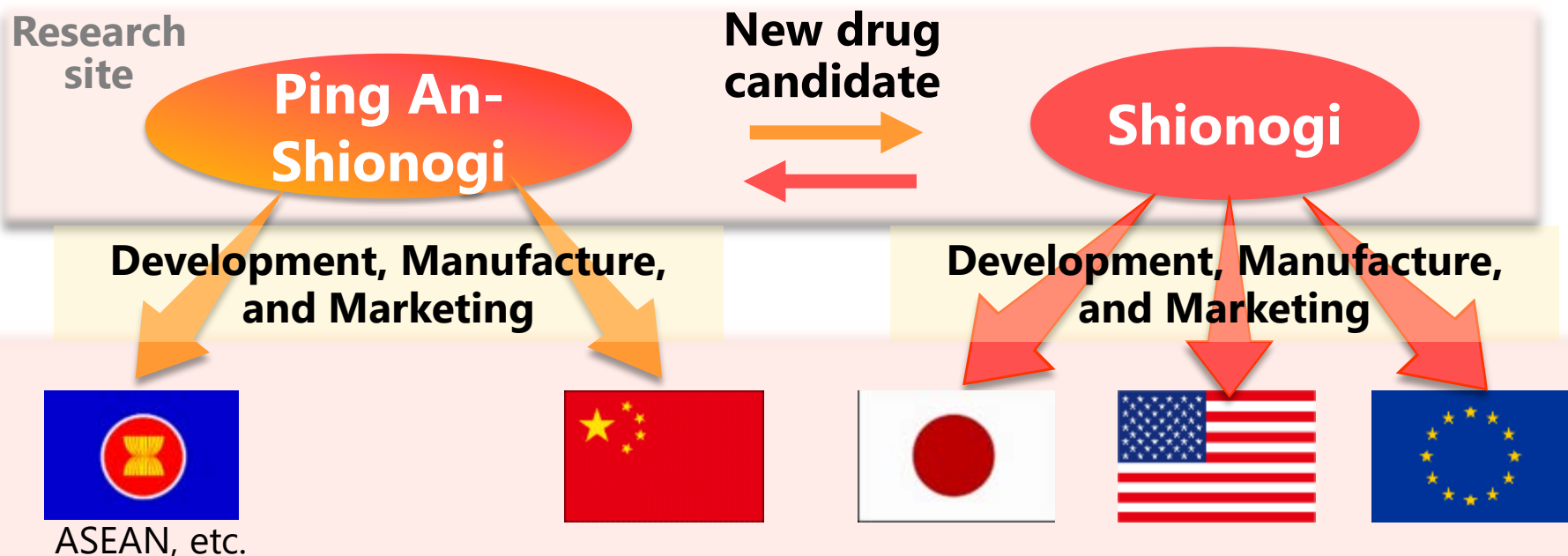
Skyrocketing success rate

Continuous New Drug Discovery by Two Drug Discovery Engines

- At the beginning of its establishment, Shionogi drug candidates are introduced and developed in China.

In the medium to long term

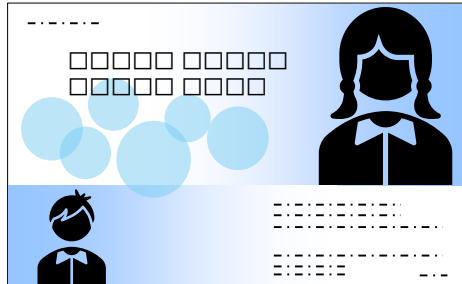
- Discover drug candidates at two strong and independent research sites
- Mutually license those candidates for global development



Overview of Pharma Re-engineering Business

Realizing Efficient Drug Development Processes

Current : mass communication approach



<issues>

- inefficient
 - approaching unrelated people
 - cannot expect firm recognition
 - Effectiveness diminishes from the day after distribution
⇒ Frequent distribution

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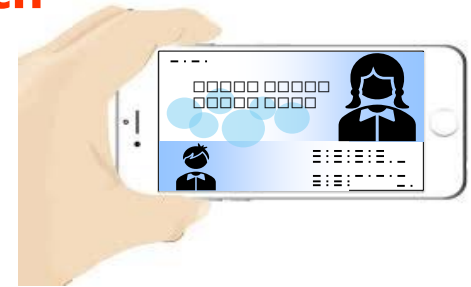
IT technology
Patient DB



Japan's first
open
recruitment
record



New model : targeted approach



<advantages>

- Approach only targeted patients and families for firmer and longer recognition
- Reduction of cost and time

Merging IT x pharma's strengths

Reduction of clinical trial period by taking advantage of an efficient patient recruiting model

Smart Factory

Digital management processes of pharmaceutical manufacturing originated from China



- Realizing both improving GMP control and low cost
- Quality assurance technology for new manufacturing processes like continuous productions

Sales Vision

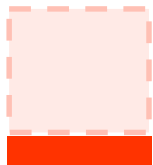


Sales Vision

Vision of PING AN-SHIONOGI

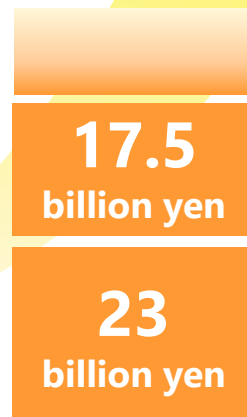
As a world-leading healthcare service provider, we propose new optimized healthy life, and create a future where we can spend a lively and healthy life.

- From FY2020
- Online healthcare collaboration start
 - Introducing more than 20 products



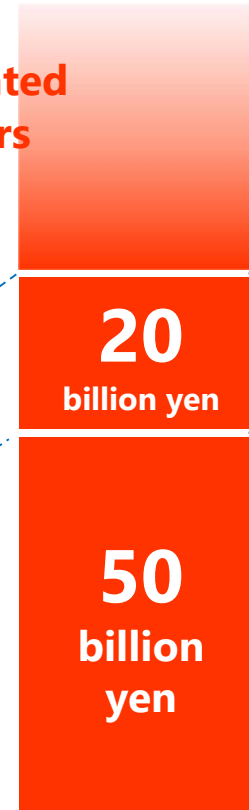
FY2020

FY2022
Cefiderocol approval



FY2022

FY2024
One JV originated candidate enters clinical trial



FY2024

70 billion yen

+ additional sales by strategic investments

Additional sales by strategic investments

consumer healthcare business in Japan

- Online healthcare Business
- Drug development Business

Guidance of FY2020

- **Fiscal year end of JV**

- Ping An-Shionogi (Shanghai): Jan. to Dec.
- Ping An-Shionogi (Hong Kong): Apr. to Mar.

- **Sales of FY2020**

- Ping An-Shionogi (Shanghai)
 - > Only December sales of Shenzhen sales company and Nanjing factory will be counted
- Ping An-Shionogi (Hong Kong)
 - > OTC sales of Jan. to Mar. of 2021 in Japan will be counted

- 
- **No guidance change will happen in FY2020 from above reasons**
 - **Full yearly revenues will be generated from FY2021**

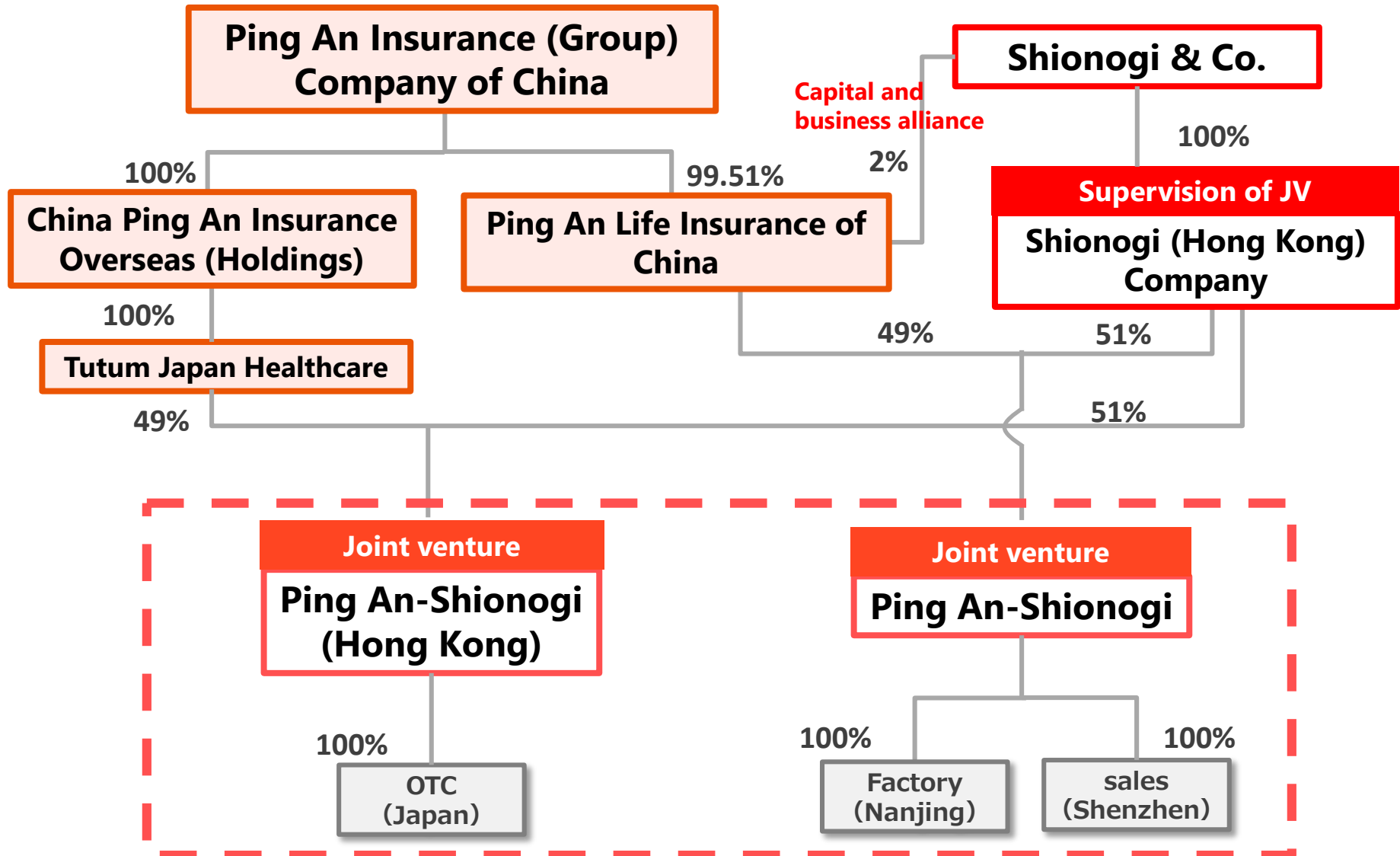
Shaping the “Future of Healthcare”



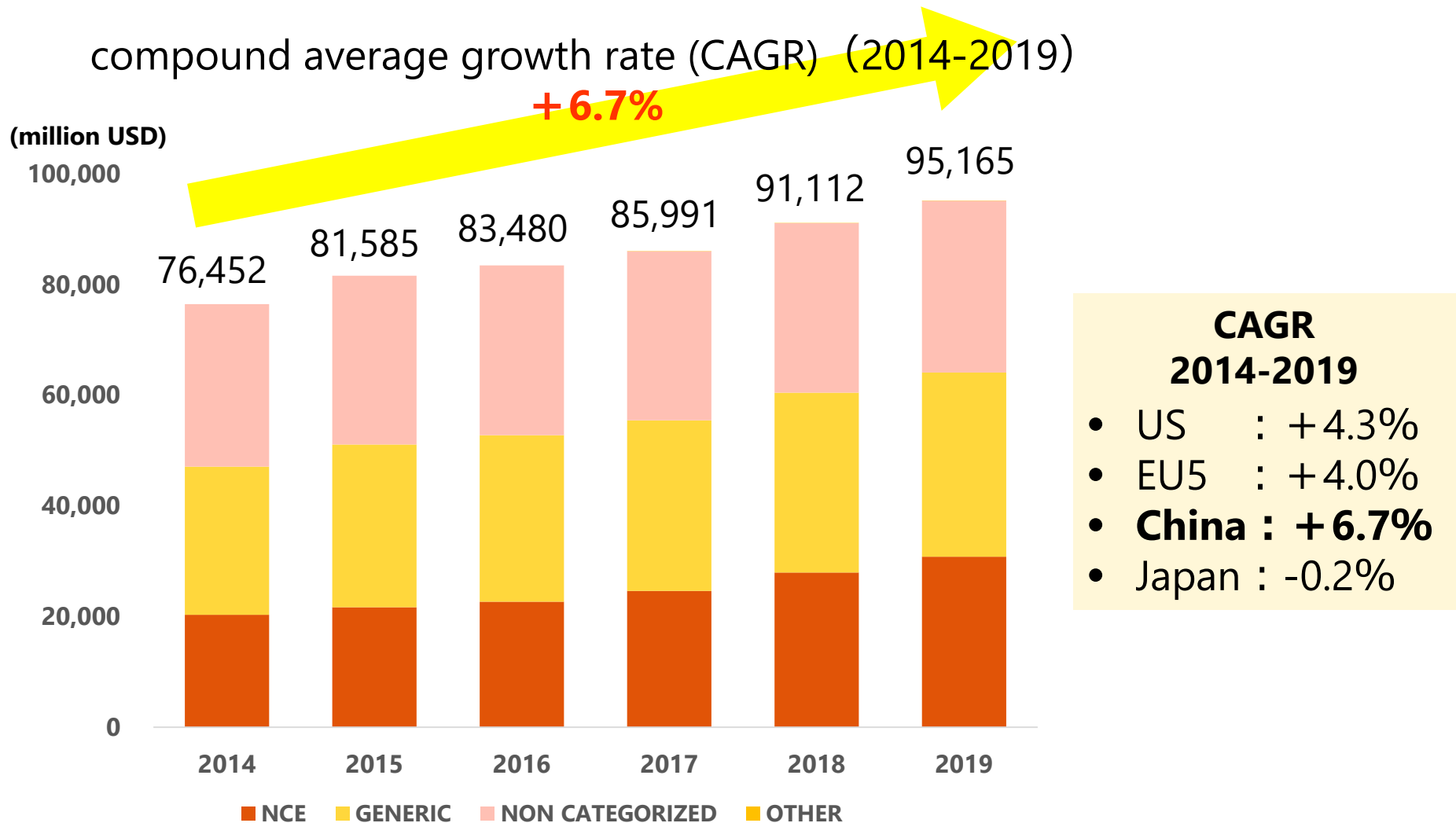
Back up



Structure



(Reference) Drug Market Environment in China



Forward-Looking Statements

- Forecast or target figures in this material are neither official forecasts of earnings and dividends nor guarantee of target, achievement and forecasts, but present the midterm strategies, goals and visions. Official earnings guidance should be referred to in the disclosure of the annual financial report (*kessan tanshin*) in accordance with the rules set by Tokyo Stock Exchange.
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- Risks and uncertainties include general industry and market conditions, and general domestic and international economic conditions such as interest rate and currency exchange fluctuations. Risks and uncertainties particularly apply with respect to product-related forward-looking statements. Product risks and uncertainties include, but are not limited to, technological advances and patents attained by competitors; challenges inherent in new product development, including completion of clinical trials; claims and concerns about product safety and efficacy; regulatory agency’s examination period, obtaining regulatory approvals; domestic and foreign healthcare reforms; trend toward managed care and healthcare cost containment; and governmental laws and regulations affecting domestic and foreign operations.
- For products that are approved, there are manufacturing and marketing risks and uncertainties, which include, but are not limited to, inability to build production capacity to meet demand, unavailability of raw materials, and failure to gain market acceptance.
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