

**Chongqing Zhifei Biological Products Co., Ltd.**

**2025**

**Interim Business Performance**

Chongqing Zhifei Biological Products Co., Ltd.

Board of Directors

August 2025

## **Important Notes**

**The main content and data of this report are from the 2025 Interim report of Chongqing Zhifei Biological Products Co., Ltd. In case of any discrepancy between interpretations of the text, the Chinese version shall prevail.**

## **I. Overview of Principal Business**

### **(I) Company profile**

Zhifei is an international, full-industry chain high-tech bio-pharmaceutical enterprise integrating R&D, production, sales, distribution, import and export of vaccines and biological products.

Since its inception in 2002, the Company has always adhered to its business principle of "prioritizing social benefits over corporate profits" and implemented the development model featuring "technology & market" drivers. The Company has long been guided by the health needs of the people, constantly improved the "prevention and treatment of disease" business layout. By continuously strengthening its R&D and commercialization capabilities, the Company provides high-quality products and professional services to build a strong line of defense to protect public health.

In 2024, there was no material change in the principal business of the Company. Beijing Zhifei Lvzhu Biopharmaceutical Co., Ltd. ("Zhifei Lvzhu") and Anhui Zhifei Longcom Biopharmaceutical Co., Ltd. ("Zhifei Longcom") renewed their efforts to introduce new products against bacteria, viruses and tuberculosis. The parent company of Zhifei, as the main promoter, dedicated to diversifying vaccine products and providing more convenient and considerate services. Taking Zhifei Airport as the import and export channel, the Company also provides warehousing, customs clearance record, and batch release services for imported vaccines. In addition, the Company incubates and cultivates promising biotechnology and products through the Zhirui investment platform by equity investment.

### **(II) Major products and indication**

As of the disclosure date of this report, a total of fifteen products had been launched, of which one product got conditional approval. The Company offers a diverse range of products, including vaccine products for preventing infectious diseases such as influenza, cervical cancer, pneumonia, influenza, rotavirus, herpes zoster and drugs for the diagnosis, prevention and treatment of

Tuberculosis, to the public including groups of infants, teenagers and adults. It effectively provides product support for the prevention and control of infectious diseases, and provides the nation with diversified options for disease protection. Details are as follows:

No.	Common Name	Trade Name	Function and Use / Indication
1	Group ACYW <sub>135</sub> Meningococcal Polysaccharide Vaccine	Menwayc	Used to prevent the meningococcal meningitis caused by ACY W <sub>135</sub> meningococcal polysaccharide.
2	Meningococcal Group A and C Conjugate Vaccine	Mengnakang	Used to prevent infectious diseases caused by meningococcal Group A and C, such as cerebrospinal meningitis and pneumonia.
3	Haemophilus Influenzae Type b Conjugate Vaccine	Xifeibei	Used to prevent invasive infections caused by Haemophilus influenzae Type b (including meningitis, pneumonia, septicemia, cellulitis, arthritis, epiglottitis, etc.).
4	Group A and Group C Meningococcal Polysaccharide Vaccine	Mengnake	prevent epidemic cerebrospinal meningitis caused by Neisseria meningitidis group A and C.
5	Recombinant Novel Coronavirus Vaccine (CHO Cell)	Zifivax™	Used to prevent diseases caused by Covid-19.
6	Recombinant Mycobacterium Tuberculosis Fusion Protein (EC)	Ekear	Used to diagnose mycobacterium tuberculosis infection, and the results of the subcutaneous test are not affected by the BCG vaccine and can be used for clinical diagnosis of tuberculosis.
7	Mycobacterium Vaccae for Injection	Vaccae	Used to prevent tuberculosis in the latent groups of infected people with mycobacterium tuberculosis; also used as a drug combination for the adjuvant tuberculosis chemotherapy.
8	Pneumovax 23 - Pneumococcal Vaccine, Polyvalent	Pneumovax	Used to prevent pneumococcal disease caused by 23 serotypes contained in this product (serotypes 1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, and 33F).
9	Four-valent Influenza Virus-split Vaccine	/	Used for preventing influenza caused by vaccine-related type of influenza virus.
10	Human Papillomavirus Quadrivalent (types 6, 11, 16, 18) Recombinant Vaccine	Gardasil	1.Used to prevent the following diseases caused by high-risk HPV16/18: cervical cancer, grade 2 and grade 3 cervical intraepithelial neoplasia (CIN2/3) and adenocarcinoma in situ, and grade 1 cervical intraepithelial neoplasia (CIN1). 2. Used to prevent the following diseases in males aged 9 to 26 years caused by the HPV types contained in this product: anal cancer caused by HPV types 16 and 18; genital warts (condyloma acuminata) caused by HPV types 6 and 11; and the following pre-cancerous lesions or atypical lesions caused by HPV types 6, 11, 16, and 18: anal intraepithelial neoplasia (A

			IN)-1, AIN-2, and AIN-3.
11	Human Papillomavirus 9-valent Vaccine, Recombinant	Gardasil 9	<p>1. Used to prevent the following diseases caused by HPV type contained in this product: cervical cancer caused by type HPV 16, 18, 31, 33, 45, 52 and 58; precancerous lesions caused by HPV6, 11, 16, 18, 31, 33, 45, 52 and 58: cervical intraepithelial neoplasia (CIN2/3), cervical adenocarcinoma in situ (AIS), and cervical intraepithelial neoplasia (CIN1); persistent infections caused by type HPV6, 11, 16, 18, 31, 33, 45, 52 and 58.</p> <p>2. Used to prevent the following diseases in males aged 9 to 26 years caused by the HPV types contained in this product: anal cancer caused by HPV types 16 and 18; genital warts (condyloma acuminata) caused by HPV types 6 and 11; and the following pre-cancerous lesions or atypical lesions caused by HPV types 6, 11, 16, and 18: anal intraepithelial neoplasia (AIN)-1, AIN-2, and AIN-3.</p>
12	Reassortant Rotavirus Vaccine, Live, Oral, Pentavalent (Vero Cell)	Rotateq	Used to prevent the rotavirus gastroenteritis in infants caused by serum-type G1, G2, G3, G4 and G9.
13	Pneumovax 23 - Pneumococcal Vaccine, Polyvalent	Pneumovax	Used to prevent the pneumococcal disease in the form of the capsulate bacteris contained in this vaccine.
14	Hepatitis A Vaccine (Human Diploid Cell), Inactivated	VAQTA	Used to prevent diseases caused by the hepatitis A virus.
15	Recombinant Zoster Vaccine (CHO cell)	Shingrix	Used to prevent herpes zoster.

### (III) Main business model

In implementing the development model featuring "technology & market" drivers, the Company leverages professional and highly efficient promotion services to fully exploit product market potential, amplify social benefits and commercial value, and channel market achievements back into technological innovation. This approach fosters a well-structured and synergistic R&D pipeline, enabling the continuous delivery of high-quality products to the public. By establishing a virtuous cycle where technological R&D and market promotion mutually reinforce each other, the Company has built core competencies characterized by "leading innovative R&D and professional market support," accelerating the transformation of innovative research into tangible value.

The Company remains focused on the biopharmaceutical field, adhering to an innovation strategy of "primarily independent R&D, supplemented by collaborative R&D, and complemented by investment and incubation" to achieve synergistic development in both "prevention & treatment." It continuously enhances its capacity for original innovation and iterative advancement, leveraging technology platforms to pursue diverse R&D pathways. Supported by a highly qualified clinical and regulatory team, the Company accelerates product development and application to deliver high-quality products that meet public health needs. Through collaborative R&D partnerships with leading research institutions and academia, the Company is committed to building an industry-academia-research-medicine cooperation framework and promotes external collaboration across multiple areas to foster synergistic innovation within the industry. By investing in and incubating cutting-edge technologies, it empowers the R&D and industrialization of advanced biologic drugs, thereby accelerating the translation of innovative technologies into both social benefits and commercial value.

The Company implements the "production determined by sales" model, which is, the production department organizes production according to the marketing department's sales plan, and formulates a production schedule based on sales while also maintaining an appropriate inventory level. The Company strictly complies with the requirements of the Drug Administration Law of the People's Republic of China (hereinafter referred to as the "Drug Administration Law"), the Vaccine Administration Law of the People's Republic of China (hereinafter referred to as the "Vaccine Administration Law"), and the Regulations on the Administration of Vaccine Production and Circulation, among other pertinent laws and regulations. The Company ensures that its production and inspection strictly conforms to the approved production process and quality control standards, and that its entire production process complies with the good manufacturing practice requirements. The quality management department of the Company conducts strict supervision, inspection, and control over product quality. A complete production quality management system is in place to ensure that the entire production process meets ongoing compliance requirements.

The Company employs a direct sales model. The Company's professional marketing team organizes academic meetings and promotional events, carries out activities to popularize vaccination knowledge to bring the Company's vaccines and medicines to end users. The Company's products are produced and sold in strict compliance with the Drug Administration Law, the Vaccine Administration Law, and other relevant laws and regulations, Implements strict management of the whole life cycle of products. Purchase contracts are signed based on the customer's needs. The products are mainly delivered to the designated locations through the Company's self-built storage and logistics system to complete the process of sales and settlement. According to laws and regulations, vaccines may be marketed and sold in their area of circulation only after they have been produced/imported and issued with batch release certificates by the state. Governments of provinces, autonomous regions, and municipalities can organize purchases of vaccine products via public resource trading platform at the provincial level. The Company distributes vaccine products to the disease prevention and control agencies or points of vaccination units designated by the disease prevention and control agency in accordance with procurement contracts.

## II. Analysis of Principal Business

### (I) Key accounting data and financial indicators

During the reporting period, key financial indicators are shown below:

Unit: RMB

	2025 H1	2024 H1	Increase/decrease of the current period compared to the previous period
<b>Operating income (RMB)</b>	4,919,216,833.15	18,258,441,511.25	-73.06%
<b>Net profit attributable to shareholders of the Company (RMB)</b>	-597,095,590.86	2,234,319,364.61	-126.72%
<b>Net profit attributable to shareholders of the Company after deducting non-recurring</b>	-619,848,706.85	2,230,300,309.18	-127.79%

gains and losses (RMB)			
Net cash flows from operating activities (RMB)	1,564,374,688.4	-307,321,841.89	609.03%
Basic earnings per share (RMB/share)	-0.2494	0.9322	-126.75%
Diluted earnings per share (RMB/share)	-0.2494	0.9322	-126.75%
Weighted average return on equity	-1.96%	6.88%	-8.84%
	<b>2025 H1</b>	<b>2024 H1</b>	<b>Increase/decrease of the current period compared to the previous period</b>
Total assets (RMB)	45,937,273,239.55	49,909,613,835.40	-7.96%
Net assets attributable to shareholders of the Company (RMB)	30,233,643,817.24	30,830,739,408.10	-1.94%

## (II) Products or services accounting for more than 10%

Unit: RMB

	Operating income	Operating cost	Gross profit margin	Increase/decrease in operating income as compared with the same period of the previous year	Increase/decrease in operating cost as compared with the same period of the previous year	Increase/decrease in gross profit margin as compared with the same period of the previous year
By product or service						
Proprietary product - vaccines and TB products	499,537,265.56	107,380,702.41	78.50%	-9.27%	33.44%	-8.06%
Agent product - vaccines	4,370,382,395.60	3,382,378,851.45	22.61%	-75.16%	-74.45%	-8.61%

## (III) Analysis of assets and liabilities



Unit: RMB

	As at the end of the reporting period		End of the previous year		Increase/decrease in proportion	Explanations on significant changes
	Amount	Proportion of total assets	Amount	Proportion of total assets		
Monetary funds	2,566,465,559.45	5.59%	2,700,466,763.66	5.41%	0.18%	
Accounts receivable	13,517,972,648.94	29.43%	16,272,763,249.18	32.60%	-3.17%	mainly due to the decrease in sales revenue for this period
Inventory	21,014,568,347.64	45.75%	22,218,088,029.07	44.52%	1.23%	
Investment properties	315,504.46	0.00%	176,638.52	0.00%	0.00%	
Fixed assets	4,358,489,204.98	9.49%	4,337,774,955.95	8.69%	0.80%	
Construction in progress	831,511,209.77	1.81%	1,006,182,134.18	2.02%	-0.21%	
Right-of-use assets	20,638,561.98	0.04%	26,925,597.40	0.05%	-0.01%	
Short-term borrowings	13,964,455,677.63	30.40%	11,901,908,557.91	23.85%	6.55%	mainly due to the increase in short-term credit loans from banks in this period
Contractual liability	14,290,268.71	0.03%	11,869,634.92	0.02%	0.01%	
Long-term borrowings	276,626,983.65	0.60%	347,588,788.71	0.70%	-0.10%	
Lease liabilities	12,082,249.38	0.03%	15,447,210.27	0.03%	0.00%	

**(IV) Major subsidiaries and associates accounting for more than 10% of the company's net profit**

Unit: RMB

Company Name	Company Type	Registered Capital	Total Assets	Net Assets	Operating Revenue	Operating Profit	Net Profit
Zhifei Longcom	Subsidiary	765,000,000.00	4,973,907,501.04	893,494,797.09	73,860,197.69	-208,642,464.19	-161,467,024.51

<b>Zhifei Lvzhu</b>	Subsidiary	1,332,156,900.00	4,649,663,595.20	3,025,601,640.68	427,657,235.70	-237,325,399.15	-158,305,238.89
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### III. MANAGEMENT DISCUSSION AND ANALYSIS

In the first half of 2025, against a backdrop of a complex and volatile international situation, the global economic and trade order has been severely impacted, leading to increased instability and uncertainty. Confronted with such complexities, and under the strong leadership of the CPC Central Committee, all regions and government departments have taken proactive measures, tackled challenges head-on, and accelerated the implementation of more proactive and impactful macroeconomic policies. As a result, China's economy has maintained stable performance while making further progress, achieving new milestones in high-quality development. The state has introduced a series of industrial policies to support the development of the biomedical sector. The vaccine industry is fostering new technological breakthroughs, indicating promising long-term growth prospects. However, challenges such as increased vaccine hesitancy and decreased public willingness to get vaccinated continue to affect the industry. Confidence in vaccines across society is still in the process of recovery, and the industry as a whole is experiencing noticeable short-term pressure.

During the reporting period, due to multiple factors such as decreased public willingness to vaccination and changes in market demand, the Company recorded operating revenue of RMB 4.919 billion, representing a year-on-year decrease of 73.06%. Net profit attributable to shareholders of the listed company was RMB -597 million, down 126.72% compared to the same period last year. Amid industry-wide structural adjustments, the Company, under the leadership of the Board of Directors, maintained strategic focus across the organization in the face of operational pressures and challenges. By responding flexibly to market changes and actively optimizing business strategies, the Company achieved stable development and made new breakthroughs in areas such as innovation in R&D and internationalization strategy.

**During the reporting period, the main operation of the company is as follows:**

#### **1. Driving innovation breakthroughs to accelerate the launch of proprietary products**

The Company remains committed to innovation-driven development, continuously monitoring global infectious disease trends and tracking cutting-edge advancements in the industry. By leveraging platform-based technological breakthroughs, it has accelerated the progress of its R&D pipeline and strengthened its market competitiveness through a diversified product matrix, thereby bolstering public health defenses. Despite short-term operational pressures, the Company maintained stable R&D investment and continued to enhance its research talent structure, effectively advancing clinical trials and registration processes for products under development. As of the end of the reporting period, the Company's R&D team size ranks among the top tier in the industry, with a highly qualified, multi-tiered research team serving as the core driving force behind its innovation momentum. In the first half of 2025, the Company invested RMB 635 million in R&D. As of the date of this report, more than ten R&D pipeline projects have achieved significant milestones, including accelerated regulatory submissions and key advancements in clinical-stage trials.

Drug Name	Change in Progress	Significance
Four-valent Influenza Virus-split Vaccine	Drug registration certificate obtained	With lower levels of impurities and no preservatives or antibiotics, this vaccine offers more diverse options for flu prevention. It further enriches the Company's portfolio of viral vaccines so the Company is better equipped to expand its market presence.
15-Valent Pneumococcal Conjugate Vaccine	Drug registration review and approval	Covering the 15 serotypes with the highest detection rate in Asia, which also align with the dominant serotypes in China, it will create a synergistic effect with the Company's marketed 23-valent pneumonia vaccine and the 26-valent Pneumococcal Conjugate Vaccine in clinical trials, providing a superior option for public pneumonia prevention. No 15-valent Pneumococcal Conjugate Vaccine is currently marketed in China.
ACYW <sub>135</sub> Meningococcal Conjugate Vaccine	Drug registration review and approval	This vaccine will further enrich the Company's portfolio of meningococcal vaccines. It will complement the Company's already marketed AC meningococcal polysaccharide vaccine, ACYW <sub>135</sub> polysaccharide vaccine, and AC conjugate vaccine, thus enhancing the market competitiveness of the Company's proprietary products.
Therapeutic BCG Vaccine	Phase III clinical trial in progress	Catering to a broader range of health needs, this product will further enrich the Company's product mix and enhance its market competitiveness.
S. flexneri and S. sonnei Bivalent Shigella Conjugate Vaccine	Initiated Phase III clinical trials in Bangladesh	Successful progress will provide additional clinical data to support the production registration application for the bivalent shigella vaccine and accelerate the project. No similar vaccine is currently available globally.
Quadrivalent Influenza Virus-split	Phase I/II clinical trial in progress	This vaccine represents an application of the Company's new adjuvant technology platform, showing its commitment to advancing innovative technologies and striving for

Vaccine (ZFA02 adjuvant)		breakthroughs in core technologies. Currently, no adjuvanted flu vaccines have been officially approved for market release in China.
26-Valent Pneumococcal Conjugate Vaccine	Initiated Phase I clinical trials in Australia	Covering the most prevalent serotypes for broader protection, it is the highest-valent pneumococcal conjugate vaccine in clinical trials in China. Successful progress will bolster clinical data for its production registration application and strengthen the foundation for deepening international cooperation and promoting overseas expansion of proprietary products.
Influenza Virus-split Vaccine (ZFA02 adjuvant)	Notice of clinical trial approval received	This vaccine represents an application of the Company's new adjuvant technology platform, showing its commitment to advancing innovative technologies and striving for breakthroughs in core technologies. Currently, no adjuvanted flu vaccines have been officially approved for market release in China.
DPT (component)-Hib four combination vaccine	Notice of clinical trial approval received	This vaccine can reduce the number of injections and improve vaccination compliance. It will synergize with the Company's Component DTaP Vaccine in Phase III trials, further solidifying its multivalent vaccine portfolio. No Component DTaP-Hib Quadrivalent Vaccine is currently approved in China.
Adsorbed Tetanus Vaccine	Notice of clinical trial approval received	This vaccine uses column chromatography to purify effective antigens, delivering higher purity and greater batch-to-batch consistency than the traditional salting out method. It remedies the shortfall in the post-exposure vaccine category of the Company's DTaP pipeline.
Recombinant Zoster Vaccine (CHO cell)	Notice of clinical trial approval received	Incorporating the Company's self-developed BC02 adjuvant system, and leveraging multiple technological pathways including recombinant protein technology (innovative adjuvant) and mRNA for zoster vaccine development, it deepens the pipeline of advanced technologies and lays a solid foundation for long-term sustainable development.
Adsorbed Acellular DTP (Component) Combined Vaccine (for Adolescents and Adults)	Application for production registration accepted	As a new-generation acellular DTP vaccine, it will further consolidate the Company's multivalent vaccine portfolio, enhance its market competitiveness, and provide a solid foundation for achieving long-term goals. No component DTP vaccine for adolescents and adults is currently approved in China.

## 2. Optimize the Market Network and responding Flexibly to Changes

The Company continuously enhances its operational capabilities, steadily executing importation, storage, transportation, and promotion activities to provide the public with high-quality products and comprehensive services. It remains committed to deepening market presence through refined management practices, strengthening the integration of and response to information on market trends and end-user demand, thoroughly exploring market potential, actively optimizing resource allocation, and responding swiftly to market changes. To alleviate vaccine hesitancy and advance disease prevention initiatives in China, the Company has adjusted its promotion strategies

and innovated its outreach models. It consistently carries out disease education and vaccination awareness campaigns through both online and offline channels, responds to government calls to participate in public benefit programs, increases public awareness of disease prevention, and works to improve vaccination willingness. The Company continues to improve the development of its market talent team, constantly refining mechanisms for talent acquisition, training, and assessment. This ensures the professional competence and comprehensive capabilities of the marketing team are highly aligned with the Company's development needs, providing solid human resources support for timely, precise, and in-depth market services at the grassroots level. Leveraging its scale and professionalism, the Company's market team conducts extensive and sustained promotional activities across the country, earning broad recognition for its product advantages and service excellence.

The Company continues to consolidate its cooperative relationships with business partners, working together to respond to market changes and deepen long-term mutual trust. During the reporting period, the Company began executing the amended and optimized Supplementary Agreement to the Exclusive Distribution and Joint Promotion Agreement with GSK. Based on market conditions and product demand, both parties adjusted the procurement and supply of the recombinant herpes zoster vaccine. Also during the reporting period, MSD's Gardasil and Gardasil 9 successively received approval for use in males, providing health protection against HPV-related diseases and cancers for men. Gardasil 9 is the first and currently only nine-valent HPV vaccine approved in China for eligible males and females. The Company is working closely with MSD to promote the building of herd immunity through vaccination in both males and females. Furthermore, the Company and MSD have mutually agreed to adjust the procurement and supply schedule for HPV vaccines this year and are continuously conducting demand assessments to jointly respond to market dynamics. Through close collaboration, the Company and its partners are enhancing supply chain resilience and risk resistance capabilities in a volatile market environment, building momentum for future market recovery.

During the reporting period, the Company's Four-valent Influenza Virus-split Vaccine was approved for marketing, enriching its portfolio of commercially available products and supporting national influenza prevention and control efforts. As of the date of this report, the vaccine has obtained the Lot Release Certificate for Biological Products and has gained market access in multiple provinces including Anhui, Zhejiang, and Jiangsu, demonstrating the Company's effective commercialization capabilities. Meanwhile, the 2024 National Reimbursement Drug List (NRDL) officially took effect on January 1, 2025. As a self-developed product included again in the NRDL, the tuberculosis diagnostic reagent EC will leverage policy support to give full play to its significant specificity advantages in tuberculosis diagnosis, effectively reduce the financial burden on patients, improve drug accessibility, further facilitate early detection and treatment of tuberculosis, and reduce the risk of transmission. In addition, the Company actively participates in disease prevention initiatives and continues to promote its self-developed products, such as ACYW<sub>135</sub> polysaccharide vaccine, AC conjugate vaccine, 23-valent pneumococcal polysaccharide vaccine, and Vaccae, achieving positive results in multiple provinces and regions across China and contributing to local infectious disease prevention and control.

During the reporting period, the Company's vaccines were made available for sale only after they had obtained a national batch release and approval certificate in strict compliance with applicable laws and regulations. The details of batch releases of Company's vaccines during the reporting period are presented as below:

**(1) Proprietary product**

Manufacturer	Product Name	Number of Released and Approved Products in H1 2025(Dose)	Number of Released and Approved Products in H1 2024 (Dose)	Growth Rate (%)
Zhifei Lvzhu	ACYW <sub>135</sub> polysaccharide vaccine	1,926,220	1,209,921	59.20
	AC conjugate vaccine	430,982	1,028,583	-58.10
	Hib vaccine	583,722	1,740,489	-66.46
	AC polysaccharide vaccine	2,701,517	2,060,940	31.08
	23-valent pneumonia vaccine	0	160,057	-100.00

**(2) Products acting as agent**

Manufacturer	Product Name	Number of Released and Approved Products in H1 2025 (Dose)	Number of Released and Approved Products in H1 2024 (Dose)	Growth Rate (%)
MSD	Tetravalent HPV vaccine	0	465,991	-100.00
	9-valent HPV vaccine	4,238,826	18,271,733	-76.80
	Pentavalent rotavirus vaccine	2,688,518	2,254,211	19.27
	23-valent pneumonia vaccine	571,877	845,000	-32.32
	Inactivated hepatitis A vaccine	0	170,808	-100.00
GSK	Recombinant Zoster Vaccine	574,704	1,606,944	-64.24

### 3. Compliant Operations and Strict Quality Control

Since its listing, the Company has consistently adhered to the principle of "keeping compliance in mind and putting responsibility into action," continuously improving its quality control system. It strictly complies with laws and regulations such as the Drug Administration Law, the Vaccine Administration Law, and the Administrative Measures for Lot Release of Biological Products, conducting production and operational activities in line with its corporate philosophy of "prioritizing social benefits over corporate profits". During the reporting period, the Company rigorously implemented all applicable laws, regulations, and normative documents, faithfully fulfilled national requirements for the development of the biopharmaceutical industry, fully leveraged its strengths in key segments of the industrial chain, and ensured the production, storage, transportation, and supply of its marketed products to meet public health needs.

The Company has established a sound corporate governance framework and institutional system to ensure that its operations focus on core business activities while fully protecting the legitimate rights and interests of stakeholders such as shareholders, customers, and employees. It places great emphasis on compliance operations, having set up a compliance management structure comprising decision-making, management, and execution levels, and built an integrated compliance control system encompassing "prevention–monitoring–sanction." The Company stays abreast of the latest national and industry compliance policies, continuously updates and refines its internal compliance systems, increases the frequency of compliance training, and strengthens compliance monitoring to better meet the requirements of national laws and regulations, pharmaceutical

industry standards, and its own business development needs, thereby building a trustworthy and responsible corporate brand.

#### **4. Global Product Expansion: Implementing an International Strategy**

Guided by its mission to “safeguarding human health, by preventing the unseen & treating the ailing” the Company continues to advance its internationalization strategy by building a high-quality product-driven global pathway. Through technological innovation, it strengthens collaborative partnerships to introduce outstanding products to China and expand its presence abroad, contributing China’s share to global health causes.

The Company actively advances the international registration and certification of its proprietary products, offering innovative solutions to address unmet clinical needs and enhancing the accessibility and affordability of vaccines and therapeutic agents. During the reporting period, the Company continued to supply the ACYW<sub>135</sub> polysaccharide vaccine to countries including Indonesia, Nigeria, Pakistan, and Uzbekistan. Meanwhile, its 23-valent pneumonia vaccine completed an onsite audit by the Philippine Food and Drug Administration and received GMP certification, while market registration is concurrently underway in multiple countries. The Company is also actively facilitating the approval and adoption of its tuberculosis diagnostic and therapeutic products across different global regions, supporting worldwide TB control efforts. To date, the TB diagnostic reagent EC has been approved for marketing in Indonesia and authorized for use in Macau, China. Registration processes are ongoing in high-TB-burden countries such as the Philippines, and clinical studies are planned in Indonesia, Thailand, and other countries. Additionally, therapeutic products such as Degludec Insulin and Semaglutide from Chenan Biological are undergoing collaborative discussions with multiple overseas entities.

The Company is steadily progressing international clinical work for its innovative pipeline products, laying a solid foundation for future global expansion and further amplifying the international influence of China’s innovative vaccines. During the reporting period, the Company partnered with a renowned international diarrheal disease research center to initiate a Phase III



clinical trial in Bangladesh—one of the countries with the highest global burden of diarrheal diseases—for its independently developed *S. flexneri* and *S. sonnei* Bivalent Shigella Conjugate Vaccine. As the fastest-developing candidate globally designed to prevent both *Shigella flexneri* and *Shigella sonnei* infections, this vaccine is expected to address a critical gap in shigellosis prevention in developing countries and provide an effective tool for global control of bacterial dysentery. Furthermore, the Company’s proprietary 26-valent pneumococcal conjugate vaccine, which covers the most prevalent serotypes, has commenced Phase I clinical trials in Australia. By initiating clinical studies in developed countries with this highly competitive product, the Company is establishing a strong foundation for future entry into European and American markets. This multidimensional global strategy not only demonstrates the Company’s technological innovation capabilities but also exemplifies how Chinese innovation contributes to building a global community of health for all.

The Company continues to engage in international exchanges and cooperation, strengthening communication and collaboration with global organizations such as the WHO, Gavi, and UNICEF, while deepening its integration into the global biological industry chain. During the reporting period, the Company participated in leading international industry conferences and exhibitions including CPHI, showcasing Zhifei’s advanced technologies and high-quality products on the global stage and continuously enhancing the influence of the Chinese brand.

#### **IV. Analysis of Core Competitiveness**

The Company is committed to enriching the means of infectious disease prevention and control through technological innovation, extending its reach to the public via a broad and deeply penetrating market network to build strong health protection barriers. By continuously improving talent development and enhancing corporate governance, it has established differentiated competitive advantages and cultivated a unique core competitiveness, which is mainly reflected in the following aspects:

##### **(I) Building on Technology to Achieve High-Quality Development**

The Company is committed to addressing public health needs through a innovation strategy centered on “in-house R&D as the core, partnered R&D as a supplement, and investment incubation as a complement,” continuously strengthening its independent innovation capabilities and driving both internal and external growth momentum to fuel high-quality development. The Company has built a comprehensive sci-tech innovation platform system with three major R&D and production bases—Zhifei Lvzhu, Zhifei Longcom, and Chongqing Chenan—and the Beijing Innovation Incubation Center, which together enhance its integrated R&D strength. Zhifei Lvzhu and Zhifei Longcom focus on disease prevention, steadily advancing projects across the R&D pipeline. Chongqing Chenan specializes in metabolic diseases such as diabetes and obesity, developing a pipeline around GLP-1 analogs and insulin analogs to enable synergistic development in both prevention and treatment. The Beijing Innovation Incubation Center closely tracks cutting-edge biopharmaceutical technologies and explores efficient incubation management mechanisms. It emphasizes pioneering technology innovation and forward-looking research, pooling resources to tackle core technical challenges in the industry. By actively collaborating with universities, research institutes, and innovative enterprises, it integrates technology, talent, and platform resources through cross-sector collaboration. Technology projects validated through incubation that demonstrate clear translational value are advanced into Zhifei’s R&D system or external partnerships to enter the technology transfer and commercialization phase.

**1. Independent Innovation and Multi-Matrix Synergistic Development**

Adhering to the R&D approach of “source globalization, targeted pairing, networked R&D, and localized production for all programs” , the Company focuses on the iterative upgrading of traditional vaccine products and breakthroughs in innovative vaccine technologies, resulting in a robust pipeline. It has established nine technology R&D platforms that extensively cover multiple vaccine development pathways, ensuring the efficient progress of all R&D initiatives.

R&D Platforms		
Polysaccharide and Polysaccharide Conjugate Technology Platform	Genetic Recombination Technology Platform	Inactivated Technology Platform

Multipathogen and Multivalent Technology Platform	mRNA Technology Platform	Novel Adjuvant Technology Platform
Human Diploid Cell Line Technology Platform	Adenovirus Vector Technology Platform	Outer Membrane Vesicle (OMV) Technology Platform

On the basis of the nine technology R&D platforms, the Company has formed a clear structure and layout of its eight product matrices.

Matrices	Programs under development
Meningococcal Vaccine Matrix	Group ACYW <sub>135</sub> meningococcal conjugate vaccine, recombinant group B meningococcal vaccine (colon bacillus), and pentavalent meningococcal conjugate vaccine.
Pneumococcal Vaccine Matrix	15-valent pneumococcal conjugate vaccine, polyvalent and 26-Valent Pneumococcal Conjugate Vaccine.
Enterovirus Vaccine Matrix	S. flexneri and S. sonnei Bivalent Shigella conjugate vaccine against dysentery, quadrivalent recombinant norovirus vaccine (pichia pastoris), inactivated rotavirus vaccine, and bivalent recombinant rotavirus vaccine (pichia pastoris).
Tuberculosis Product Matrix	Lyophilized recombinant tuberculosis vaccine (AEC/BC02), BCG vaccine for intradermal injection, and purified protein derivative of BCG (BCG-PPD), Quadrivalent HFMD Vaccine.
Multipathogen Vaccine Matrix	DPT vaccine (component) , DPT(component)-HIB vaccine, Adsorbed Acellular DTP (Component) Combined Vaccine (for Adolescents and Adults).
Emerging Infectious Disease Vaccine Matrix	Recombinant MERS virus vaccine , COVID-19 vaccines, Mpox Vaccine.
Adult Vaccine Matrix	Influenza virus-split vaccine, quadrivalent influenza virus-split vaccine, lyophilized rabies vaccine for human use (MRC-5 cell), lyophilized rabies vaccine for human use (Vero cell), recombinant zoster vaccine (CHO cell), Zoster Vaccine(mRNA), respiratory syncytial virus (RSV) vaccine, and Lyophilized Rabies Vaccine for Human Use (ZFB-3 Cell), Influenza Virus-split Vaccine (ZFA02 adjuvant), adsorbed tetanus vaccine.
Upgraded Vaccine Matrix	Inactivated Japanese encephalitis vaccine and inactivated varicella-zoster virus vaccine.
Note: The aforesaid matrices do not include all the programs under development, and details of R&D situation are shown in the relevant contents on R&D programs in this report.	

The Company is one of the leading domestic vaccine developers with the most extensive pipeline, boasting a diverse and multi-tiered portfolio of products under development. Backed by a highly qualified clinical team, it efficiently advances clinical trials both domestically and internationally, continuously enhances R&D quality, mitigates development risks, and accelerates the delivery of high-quality products to the public. As of the date of this report, the Company has a

total of 34 independent R&D projects, 21 of which are in the regulatory application, clinical trial, or registration phase.

To date, progress across the R&D pipeline has been smooth, with multiple innovative vaccine candidates advancing to late-stage clinical trials or regulatory submission: Four products, including the Lyophilized Rabies Vaccine for Human Use (MRC-5 Cell), Influenza Virus-split Vaccine, 15-Valent Pneumococcal Conjugate Vaccine, and ACYW<sub>135</sub> Meningococcal Conjugate Vaccine, are under drug registration review and approval. Five products, such as the *S. flexneri* and *S. sonnei* Bivalent Shigella Conjugate Vaccine, Quadrivalent Recombinant Norovirus Vaccine (*Pichia Pastoris*), and DPT vaccine (component), are in Phase III clinical trials. In addition, among the therapeutic biological products: liraglutide Injection is under regulatory review for market approval; semaglutide Injection (for glucose control) has completed Phase III clinical trials; semaglutide Injection (for weight management) is currently in Phase III clinical trials.

As the Company continues to enrich its integrated “Prevention & Treatment” product ecosystem and progressively launch independently developed products, the synergistic value of its pipeline will become increasingly prominent. This will further optimize the revenue structure and reinforce sustainable growth momentum.

### Projects entering the registration Process

No.	Drug Name	Registration Class	Major Functions	Registration Stage	Progress
1	Lyophilized Rabies Vaccine for Human Use (MRC-5 Cell)	Prophylactic biologic products class 9	Used to prevent rabies.	Registration	Drug registration review and approval
2	Influenza Virus-split Vaccine	Prophylactic biologic products class 3.3	Used to prevent influenza caused by the strain of virus.	Registration	Drug registration review and approval
3	15-Valent Pneumococcal Conjugate Vaccine	Prophylactic biologic products class 7	Used to prevent influenza caused by the strain of virus.	Registration	Drug registration review and approval
4	ACYW <sub>135</sub> Meningococcal Conjugate Vaccine	Prophylactic biologic products class 7	Used to prevent infectious diseases caused by meningococcus.	Registration	Drug registration review and approval

5	Lyophilized Rabies Vaccine for Human Use (Vero Cell))	Prophylactic biologic products class 15	Used to prevent rabies.	Clinical trial	Phase III clinical trial in progress
6	S. flexneri and S. sonnei Bivalent Shigella Conjugate Vaccine	Prophylactic biologic products class 1	Used to prevent infectious diseases caused by Shigella.	Clinical trial	Phase III clinical trial in progress
7	DPT vaccine (component)	Prophylactic biologic products class 4	Used to prevent diseases caused by pertussis, diphtheria and clostridium tetani.	Clinical trial	Phase III clinical trial in progress
8	Quadrivalent Recombinant Norovirus Vaccine (Pichia Pastoris)	Prophylactic biologic products class 1	After vaccination, it stimulates the body to produce anti-norovirus immunity, which is used to prevent acute gastroenteritis caused by norovirus infection.	Clinical trial	Phase III clinical trial in progress
9	Therapeutic BCG Vaccine	Therapeutic biologic products class 3.4	Used to treat bladder carcinoma in situ and prevent recurrence, and to prevent recurrence after transurethral resection of bladder papilloma in stage Ta or T1. This product is not intended for papilloma beyond T1 stage.	Clinical trial	Phase III clinical trial in progress
10	Lyophilized Recombinant Tuberculosis Vaccine (AEC/BC02)	Prophylactic biologic products class 1	Used to prevent tuberculosis in the latent groups of infected people with mycobacterium tuberculosis	Clinical trial	Phase II clinical trial in progress
11	BCG-PPD	Therapeutic biologic products class 15	Used for clinical ancillary diagnosis of tuberculosis, epidemiological survey of tuberculosis and monitoring of body immune response after BCG vaccination. In combination with an in vivo diagnostic reagent (Recombinant Mycobacterium Tuberculosis Fusion Protein (EC)) for identification purposes, it can be used to identify the groups not infected with tuberculosis that are not vaccinated or are negative after vaccination by BCG, the groups not infected with tuberculosis that are positive after vaccination by BCG, and the groups infected with tuberculosis.	Clinical trial	Phase II clinical trial in progress
12	26-Valent Pneumococcal Conjugate Vaccine	Prophylactic biologic products class 1.4	Used to prevent infectious diseases caused by streptococcus pneumoniae.	Clinical trial	Phase I/II clinical trial in progress
13	Quadrivalent Influenza Virus-split Vaccine (ZFA02 adjuvant)	Prophylactic biologic products class 1.3	Used to prevent influenza caused by the particular virus strain.	Clinical trial	Phase I/II clinical trial in progress

14	BCG	Prophylactic biologic products class 15	After vaccination, it enables the body to generate cellular immune responses. Used to prevent tuberculosis.	Clinical trial	Phase I clinical trial in progress
15	Inactivated Rotavirus Vaccine	Prophylactic biologic products class 1	Used to prevent diarrhea caused by rotavirus.	Clinical trial	Phase I clinical trial in progress
16	Recombinant Group B Meningococcal Vaccine	Prophylactic biologic products class 2.6	Used to prevent infectious diseases caused by meningococcus.	Clinical trial	Phase I clinical trial in preparation
17	Influenza Virus-split Vaccine (ZFA02 adjuvant)	Prophylactic biologic products class 1.3	Used to prevent influenza caused by the particular virus strain.	Clinical approval	Clinical approval
18	DPT(component)-HIB vaccine	Prophylactic biologic products class 2.2	Used to prevent diseases caused by pertussis, diphtheria and clostridium tetani and Haemophilus influenzae Type b.	Clinical application	Clinical Application
19	Adsorbed tetanus vaccine	Prophylactic biologic products class 3.3	Used to prevent tetanus.	Clinical application	Clinical Application
20	Recombinant Zoster Vaccine (CHO cell)	Prophylactic biologic products class 1.3	Used to prevent herpes zoster.	Clinical application	Clinical Application
21	Adsorbed Acellular DTP (Component) Combined Vaccine (for Adolescents and Adults)	Prophylactic biologic products class 2.6	Used to prevent whooping cough (pertussis), diphtheria, and tetanus in adolescents and adults.	Clinical Application	Application accepted

### Preclinical Project

No.	Product Name	Progress and Changes in 2024	Expected Progress (2025-2026)	
1	Recombinant Hepatitis B Vaccine (Hansenula Polymorpha)	Preclinical study	Preclinical study	Preclinical study
2	Quadrivalent HFMD Vaccine	Preclinical study	Preclinical study	Clinical Application
3	Bivalent Recombinant Rotavirus Vaccine (Pichia Pastoris)	Preclinical study	Preclinical study	Preclinical study
4	Inactivated Japanese Encephalitis Vaccine	Preclinical study	Clinical Application	Clinical trial
5	Inactivated Varicella-zoster Virus Vaccine	Preclinical study	Clinical Application	Clinical trial
6	Respiratory Syncytial Virus (RSV) Vaccine	Preclinical study	Preclinical study	Clinical Application
7	Recombinant MERS Virus Vaccine	Preclinical study	Preclinical study	Preclinical study
8	DPT-based Combination Vaccine	Preclinical study	Preclinical study	Preclinical study
9	Pentavalent Meningococcal Conjugate Vaccine	Preclinical study	Preclinical study	Clinical Application
10	Mpox Vaccine	Preclinical study	Clinical Application	Clinical Approval

11	Lyophilized Rabies Vaccine for Human Use (ZFB-3 Cell)	Preclinical study	Preclinical study	Clinical trial
12	EBV Vaccine	Preclinical study	Preclinical study	Preclinical study
13	Zoster Vaccine(mRNA)	Preclinical study	Clinical Application	Clinical trial

### Chenan Bio's key programs that have entered the clinical trial stage

No.	Drug Name	Indications	Registration Stage	Progress
1	Liraglutide Injection	Type 2 diabetes	Application for market release	Under review
2	Insulin Degludec Injection	Type 2 diabetes	Clinical trial	Clinical trial completed
3	Semaglutide Injection	Type 2 diabetes	Clinical trial	Clinical trial completed
4	Semaglutide Injection	Overweight/Obesity	Clinical trial	Phase III clinical trial in progress
5	Insulin Degludec/Insulin Aspart	Type 2 diabetes	Clinical trial	Phase III clinical trial in progress

The Company places high importance on the standardized management of intellectual property rights. It has established an institutionalized and standardized management system and utilizes digital means to achieve full lifecycle process management of the company's patents, ensuring that its patent strategy is highly aligned with its business strategy and seizing development opportunities in the highly competitive market. As of the date of this report, the Company held a total of 62 granted patents (including those obtained overseas), 52 of which remain valid.

## 2.Collaborative Innovation and Integrated Industry-University-Research Development

The Company is dedicated to building a synergistic innovation ecosystem that integrates industry, academia, and research. By breaking down barriers between basic research and industrial application, and deepening multi-party collaboration mechanisms with universities and research institutes, it effectively shortens the transition cycle of cutting-edge technologies from the laboratory to commercial deployment. The Company boasts a scientific research team composed of industry elites, has established a municipal-level Postdoctoral Research Workstation, and has achieved remarkable research outcomes. In recent years, the team has published 89 academic papers in leading healthcare publications including *The Lancet* and *The New England Journal of Medicine*, providing strong theoretical and practical support for technological innovation and breakthroughs.

The Company actively engages in in-depth collaboration with research institutions and

industry peers, continuously strengthening its core technological capabilities and accumulating momentum for high-quality development. In the life and health sectors, it has established long-term cooperation mechanisms that integrate industry, universities, research, and end-users, focusing on joint efforts to tackle major disease prevention and public health challenges. The Company has built strong collaborative relationships with over 20 research institutes, including the Institute of Microbiology of the Chinese Academy of Sciences, the National Clinical Research Center for Infectious Diseases, and Sun Yat-sen University Cancer Center. These partnerships involve clinical research and academic cooperation in areas such as innovative vaccine development and tuberculosis prevention and control, further enhancing the Company's core technological capabilities and contributing to the advancement of global medical science.

### **3.Strategic Planning: Strengthening the Integrated "Prevention & Treatment" Framework**

While deepening its expertise in “preventing diseases,” the Company has expanded into the “treatment of diseases” through its ZhiRui investment platform, focusing on common and frequently occurring conditions with high prevalence and substantial health burdens. By targeting key technological breakthroughs, the Company continues to refine a comprehensive development strategy that integrates both prevention and treatment. Through the ZhiRui investment platform, the Company employs an equity investment model to incubate and nurture promising biotechnologies and products for prevention and treatment. Its efforts are concentrated in areas including oncology, autoimmune diseases, metabolic disorders, neurodegenerative diseases, and cardiovascular conditions. The platform has over 30 R&D projects underway, covering antibody-based drugs and biologics for diabetes, among which are multiple Category 1 innovative drugs in China.

During the reporting period, the Company achieved controlling ownership of Chenan Bio through a capital increase, expanding its proprietary R&D pipeline in areas such as GLP-1 and insulin analogs. Chenan Bio has mastered high-expression recombinant protein strain construction technology. By purposefully engineering yeast and E. coli expression systems, it enables



high-density fermentation and expression of recombinant human insulin and GLP-1 analog precursor proteins, with more than ten R&D projects currently in development.

## **(II) Pursuing Excellence: The Continuously Optimized Promotion Network**

Adhering to a dual-driver development model of “Technology & Market,” the Company has established a virtuous cycle where R&D innovation and commercial transformation reinforce each other. Over years of development, it has built a comprehensive, multi-tiered marketing network covering all 31 provinces in China. Managed through a hierarchical and vertical structure at the provincial level, the network reaches more than 2,600 districts and counties, and over 30,000 primary healthcare service points. The standardized and professional services delivered by the Company’s marketing team, supported by this extensive network, ensure that high-quality pharmaceutical products are efficiently delivered to end-users, effectively addressing public health needs.

With over two decades of market experience, the Company has developed an industry-leading marketing team characterized by standardized, professional, and refined management practices. A talent development mechanism—focusing on recruitment, systematic training, and continuous evaluation—has been implemented to strengthen the team’s professional competence and service awareness. Backed by specialized medical support, the team carries out diverse market activities in a targeted manner. Building on this refined management approach, the Company remains highly responsive to market dynamics, continuously optimizing its marketing network and enhancing its capabilities in integrating market intelligence and adapting to terminal demand. These efforts facilitate the rapid introduction of high-quality products into the market, generating greater social benefits.

## **(III) Quality Assurance: Stringent Control Over Product Quality**

Upholding the core value of “Quality First,” the Company is committed to delivering high-quality products and professional services by implementing strict quality control throughout the entire product lifecycle. Since the first successful lot release of its products in 2008, the

Company has maintained a 100% pass rate in lot release inspections for its self-developed products. A comprehensive quality management system has been established, defining key quality priorities and responsibilities across all stages—from R&D and raw material inspection to production, procurement, transportation, storage, sales, and post-market management. Each phase is governed by stringent standardized procedures, with all operations fully traceable through recorded data, ensuring the health, stability, and long-term effectiveness of the quality management system.

The Company possesses large-scale production capabilities, standardized quality control, and professional commercial development expertise. By aligning with international standards, it continuously enhances its production and quality control capacities, achieving top-tier industrialization strength in China. Its three R&D and production bases are equipped with modern facilities and equipment for biopharmaceutical manufacturing, supported by dedicated and responsible production teams. Long-term stable partnerships have been established with leading domestic and international suppliers, while the Company steadily increases the localization rate of key raw materials, excipients, and equipment to secure stable production and supply. The Company has built automated temperature-controlled storage facilities for pharmaceuticals that comply with quality management regulations, and established its own professional distribution team equipped with refrigerated vehicles designed for vaccine transport. This end-to-end service network covers importation, storage, and distribution. Furthermore, the Company's self-developed vaccine traceability system enables real-time, full-process monitoring of temperature and flow direction, ensuring complete traceability down to the smallest packaging unit.

#### **(IV) Pooling Wisdom and Strengths to Accelerate Strategy Implementation**

The Company is led by a professional and highly efficient management team. Members of the Board and senior management possess extensive expertise and rich industry experience across various fields including biopharmaceuticals, public health, and corporate governance. With long-term practical experience in disease prevention and control, the team has established a management system that emphasizes both strategic decision-making and effective execution.

Leveraging deep insight into industry trends and a precise understanding of market demands, the management team is able to formulate and implement tailored development strategies in a timely manner, driving continuous business breakthroughs. Even amid industry cyclical adjustments and market volatility, the management's forward-looking risk assessment and prudent operational stewardship have enabled the Company to gradually mitigate downward pressure and maintain stable development.

The Company consistently adheres to the operating principle of "prioritizing social benefits over corporate profits". Over more than two decades of development, it has built a corporate culture centered on the core values of "Six Priorities and Six Balances." At the heart of this culture lies a shared set of values that attract, unite, and retain talent. Through diversified incentive mechanisms, a sound profit-sharing system, and a stable talent development strategy, the Company provides a solid human resource foundation enabling long-term sustainable growth.

## **V. Explanation of Other Major Issues**

(I) During the reporting period, due to multiple factors including decreased public willingness for vaccination and changes in market demand, the Company and MSD mutually agreed to adjust the procurement and supply schedule for HPV vaccines this year. Both parties continue to conduct ongoing demand assessments to jointly respond to market dynamics. MSD's Gardasil and Gardasil 9 have successively received approval for male indications in China, providing health protection against HPV-related diseases and cancers for males. The Company will work closely with MSD to promote the establishment of herd immunity through "Combating HPV Together: Shared Protection for Men and Women", and actively carry out science education on the risks of relevant diseases.

(II) As of the date of this report, the Company has established a Guangzhou branch and completed the industrial and commercial registration procedures. The establishment of this branch is based on the actual operational needs of the Company, which will help optimize resource allocation and enhance overall operational efficiency and comprehensive strength. The setup of the

branch will not have any material adverse impact on the Company's operations or financial condition, and will not harm the interests of the Company or its shareholders.

## **VI. Industrial Situation and Trends**

### **(I) Full-Chain Industrial Support Policies Lay Foundation for High-Quality Development**

As a strategic emerging industry vital to the national economy, people's livelihoods, economic development, and national security, the biopharmaceutical sector is highly science-driven, strategic, synergistic, and growth-oriented. Benefiting from a series of policy supports—including legislative safeguards, healthcare reform, innovative pricing mechanisms, and a full-chain innovation incentive system—the industry is steering toward innovation-driven growth and achieving high-quality development. In the critical area of infectious disease prevention and control, which directly impacts public health, socioeconomic development, and national security, the state has introduced multiple policies to promote high-quality development of public health initiatives.

In April 2025, the Standing Committee of the 14th National People's Congress reviewed and passed the amendment to the Infectious Disease Prevention and Control Law of the People's Republic of China. This revision represents a systematic enhancement of China's legal framework for infectious disease control, following the comprehensive amendment in 2004 and partial revisions in 2013. The amended law establishes the principle of "prioritizing prevention, combining prevention with treatment, controlling outbreaks in accordance with the law, and applying science-based control measures," marking a significant shift from a disease-control model to a system-wide governance approach. In the prevention phase, it emphasizes moving efforts further upstream by strengthening public health infrastructure, improving grassroots prevention and control capabilities, and promoting health literacy to reduce the risk of infectious diseases at the source. By building a robust, full-chain defense barrier encompassing "prevention, control, treatment, and safeguard measures," the amended law will further enhance China's capacity to respond to infectious diseases and better protect public health and safety.

In June 2025, the National Healthcare Security Administration (NHSA) and the National Health Commission (NHC) jointly issued the Measures to Support the High-Quality Development of Innovative Drugs, adhering to a development philosophy that puts people's health at the center. Focusing on prominent issues in the development of innovative drugs in China, the document proposes 16 measures across five key areas: enhancing support for innovative drug R&D, facilitating the inclusion of innovative drugs in the National Reimbursement Drug List (NRDL) and commercial health insurance catalogs, promoting clinical application of innovative drugs, improving diversified payment capacity for innovative drugs, and strengthening safeguard mechanisms. These measures provide full-chain support spanning R&D, market access, hospital adoption, and multi-channel payment, which will play a significant role in advancing the high-quality development of the innovative drug industry.

Building on the Notice on Establishing a First Launch Price Formation Mechanism for Newly Marketed Chemical Drugs to Encourage High-Quality Innovation (Draft for Comment) issued by the National Healthcare Security Administration (NHSA), which explicitly supports high-quality innovative drugs in obtaining “returns commensurate with high investment and high risks”, the NHSA has officially introduced a “First Launch Price Mechanism for Newly Marketed Drugs” to incentivize pharmaceutical R&D innovation. This mechanism not only enhances the predictability of returns on investment in new drug development but also facilitates the transformation of the Chinese market from a “global follower” into a “high-value market,” increasing its weight in global drug launch strategies.

Since the beginning of 2025, China has repeatedly introduced policies to optimize centralized drug procurement and support innovative drugs. Meanwhile, the upcoming release of the commercial health insurance innovative drug catalog further reflects a favorable pharmaceutical policy environment. As national policies supporting biopharmaceutical innovation continue to be rolled out, China's advantages in policy support, scientific and intellectual resources, industrial manufacturing, and market potential are becoming increasingly prominent. There is growing confidence across society in the future development of China's biopharmaceutical industry.

## **(II) Deepening the Integration of Healthcare and Disease Prevention to Build Whole-Life Health Management**

Vaccination is an effective means of preventing and controlling diseases and safeguarding public health. Since the implementation of China's National Immunization Program, an increasing number of infectious diseases have been effectively controlled, laying a solid foundation for national health. The "Healthy China 2030" Initiative emphasizes strengthening health education and includes public awareness of vaccination as a key component of quality education across all stages of learning. Public understanding of the lifelong protective benefits of vaccines continues to grow in China.

With the introduction of vaccines such as those for HPV, influenza, and herpes zoster, and the expansion of health education efforts, vaccination is increasingly breaking through its traditional perception as “only for children” and expanding its role in safeguarding health throughout all stages of life. As China's elderly population grows and aging accelerates, it is projected that by around 2035, the number of people aged 60 and above will exceed 400 million, accounting for more than 30% of the total population. Adult immunization has thus become an urgent priority for all stakeholders. In response, provinces and cities across China are actively establishing adult vaccination clinics, promoting “Adult Vaccination Health Prescriptions,” integrating vaccination into chronic disease management protocols, breaking down barriers between public health and clinical care, and facilitating a shift from a disease-centered to a health-centered approach.

In April 2025, the National Disease Control and Prevention Administration held a press conference under the theme “Vaccination for Lifelong Health Protection,” outlining four key priorities: implementing dynamic adjustments to the National Immunization Strategy, improving the execution of immunization programs across regions, building a high-quality vaccination service system, and promoting the development of multivalent combination vaccines and novel vaccines. The conference also highlighted significant achievements from pilot initiatives in select provinces and cities, including health education prescriptions for adult vaccination, optimized public

vaccination services, integrated approaches to post-injury tetanus prevention, and digital innovations in vaccination. These efforts collectively strengthen the national immune defense barrier.

### **(III) Industry Enters Structural Adjustment Period, Technological Breakthroughs Drive Innovation Development**

Although vaccines are the most cost-effective means of preventing and controlling infectious diseases, vaccine hesitancy has impacted public acceptance and vaccination rates. Unwillingness or refusal to get vaccinated may reverse progress in disease prevention and temporarily reduce industry sentiment. Currently, overall market demand is at a low point, with the vast majority of vaccine products experiencing declines in lot release volumes and sales to varying degrees. As more companies enter the biologics sector, competition in the vaccine industry has intensified. The pipeline distribution of listed vaccine companies shows a trend toward homogenization in R&D product layouts, with particularly full competition in mature product areas such as influenza vaccines and varicella attenuated live vaccines. Oversupply has put pressure on prices, and some companies have proactively reduced vaccine unit prices to seize market share, pushing winning bid prices to historical lows.

Breakthroughs in underlying technologies, expansion into preventable diseases, and leapfrog upgrades of existing products have become keys to breaking internal industry competition and achieving industrial upgrading. China's biopharmaceutical industry already possesses strong technical capabilities, a deep talent pool, and a complete innovation industrial chain. A series of major innovation achievements are being rapidly applied in practice, and the industry is transitioning from "imitative innovation" to original innovation. Enterprises with advantages in technological innovation, a rich pipeline reserve, and differentiated layouts will possess stronger market competitiveness in the future.

The enormous potential of the international market and public demand for vaccination will also become new growth drivers for corporate development. According to the WHO's Global

Vaccine Market Report 2024, 68 countries globally reported at least one nationwide vaccine shortage in 2023. As Chinese vaccine companies strengthen their R&D capabilities and achieve continuous technological breakthroughs, they are gradually realizing the development goals of product globalization, innovation globalization, and brand globalization through finished product exports, technology transfer, localized production, and collaborative R&D under the opportunities presented by the Belt and Road Initiative

## **VII. Risks and Countermeasures**

### **(I) Policy risk**

As one of China's emerging strategic industries, the biopharmaceutical industry receives great attention from government departments at all levels, and the bio-vaccine industry in particular is a strictly regulated industry. Zhifei strictly implemented various systems in accordance with the Vaccine Administration Law and gradually improved its management. However, with the rapid development of the economic society and increasingly stringent regulations, the subsequent policies may bring different changes in and have an impact on the production, sales and circulation of the Company. The Company pays close attention to the changes in policies and make timely adjustments to its business strategies to comply with the applicable regulations and regulatory. The Company adheres to standardized operation, and the management has rich professional knowledge and forward-looking thinking, and has good handling ability when responding to industry events and industry policy adjustment.

### **(II) Product R&D Risks**

Given that the development of biological products involves significant investment, long cycles, and high risks, uncertainties may arise during the product development and registration process, potentially leading to associated risks. The company adheres to a risk management-oriented approach, focusing on building a robust clinical management team, strengthening clinical trial and product registration management, and mitigating product development and registration risks.

### **(III) Risks of Sales Underperformance and Inventory Impairment**



The sales of biological products are influenced by multiple variables, including industry policies, supply dynamics, and market demand. Fluctuations in any of these areas can impact end sales. Currently, vaccine hesitancy, volatile demand, and intensified competition are collectively putting pressure on the industry. As of the end of this reporting period, inventory represents a relatively high proportion of the company's total assets. Although the company has made provisions for inventory impairment, further impairment may still occur if the net realizable value of inventory falls below its carrying value due to factors such as sales underperformance, which could adversely affect the company's profitability. To mitigate upstream supply pressure, the company is negotiating adjustments to procurement plans with partners. Meanwhile, efforts are being made to restore and strengthen public confidence in vaccination through optimized promotion strategies and participation in government-sponsored health initiatives. These measures aim to facilitate product promotion and accelerate inventory turnover.

#### **(IV) Nonperforming debts**

China's vaccine sales are conducted under a "one-invoice system", whereby the company's accounts receivable primarily consist of payments due from local Centers for Disease Control and Prevention (CDCs) for product sales. A certain payment period exists between the point of sale and actual receipt of funds. Currently, accounts receivable represent a relatively high proportion of the company's total assets. Should significant changes occur in the external environment leading to failure in normal collection of these receivables, the company's routine operations could be adversely affected. The company places strong emphasis on risk control prior to sales, follow-up during contract execution, and effective communication after transactions. Measures such as collection assessment and standardized agreements have been implemented to reduce the risk of bad debts.

#### **(V) Talent Management Risk**

A talented team is a solid guarantee for the company's steady progress and execution in R&D, production, and sales. However, as the company continues to grow, the complexity and challenges

of personnel management are also increasing. Business diversification and added organizational layers have placed new demands on the company, while aligning goals, fostering capability growth, and matching incentives for employees across different positions, regions, and cultural backgrounds pose further challenges. The company consistently adheres to the principle of "character first" in talent selection and integrates corporate culture into onboarding training and daily conduct management to ensure team stability and discipline. At the same time, the company employs diverse and multi-faceted incentive mechanisms and profit-sharing systems to enhance team vitality.

#### **(VI)Risks of public opinion response**

With the facilitation of vaccination and the improvement of national awareness of disease prevention, the scope and quantity of vaccination products are steadily increasing. In addition, Once a public opinion incident occurs, it will have a great impact on the vaccination work and the development of the vaccine industry. With a strong sense of responsibility, the Company keeps a close eye on public opinion related to it and puts in place mechanisms for responding to and managing such opinion, so as to build a good brand image and sustain its growth.