



2022

Social Responsibility Report

Joincare Pharmaceutical Group Industry Co., Ltd.



For the health For the future



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01

The Report at a Glance

Overview

The report, covering the period from 1 January 2022 to 31 December 2022, is the sixth corporate social responsibility (CSR) report issued by Joincare Pharmaceutical Group Industry Co., Ltd. (Stock Code: 600380). In view of the continuity and comparability of some data, some contents of this report may be extended or traced back to other periods where applicable.

Scope of the Report

The report covers Joincare and its wholly-owned subsidiaries and holding subsidiaries.

Preparation Basis

This report is prepared mainly in accordance with the No.1 Guidelines for self-discipline regulation of Listed Companies on the Shanghai Stock Exchange-- Operating in a well-regulated manner and with reference to the Environmental, Social and Governance (ESG) Reporting Guide published by the Hong Kong Stock Exchange (i.e. SEHK). To ensure the completeness, materiality, authenticity and balance of the content, the preparation of this report has gone through a systematic set of procedures, including identifying key stakeholders, identifying and prioritising material issues, determining the boundaries of this report, collecting relevant materials and data, reviewing the data and preparing the report based on the data.

Definitions

For the sake of compendious expression and smooth reading, unless otherwise specified, “Joincare”, “the Company”, “the Group”, “Group” and “we” mentioned in this report all refer to Joincare Pharmaceutical Group Industry Co., Ltd. This report involves several subsidiaries of Joincare. Moreover, the full names and abbreviations of the subsidiaries used in the report are listed below:

Company Name	Abbreviation
Shenzhen Haibin Pharmaceutical Co., Ltd.	Haibin Pharma
Xinxiang Haibin Pharmaceutical Co., Ltd.	Xinxiang Haibin
Shenzhen Taitai Pharmaceutical Co., Ltd.	Taitai Pharmaceutical
Jiaozuo Joincare Bio Technological Co., Ltd.	Jiaozuo Joincare
Joincare Haibin Pharmaceutical Co., Ltd.	Joincare Haibin
Shanghai Frontier Health Pharmaceutical Technology Co., Ltd.	Shanghai Frontier
Guangzhou Joincare Respiratory Drugs Engineering Technology Co., Ltd.	Guangzhou Joincare
Henan Province Joincare Biopharmaceutical Research Institute	Joincare Biopharmaceutical Research Institute
Livzon Pharmaceutical Group Inc.	Livzon Group
Sichuan Guangda Pharmaceutical Manufacturing Co., Ltd.	Sichuan Guangda
Shanghai Livzon Pharmaceutical Manufacturing Co., Ltd.	Shanghai Livzon
Livzon Group Livzon Pharmaceutical Factory	Livzon Pharmaceutical Factory

Company Name	Abbreviation
Livzon Group Limin Pharmaceutical Manufacturing Factory	Limin Factory
Zhuhai Livzon Diagnostics Inc.	Livzon Diagnostics
Zhuhai Livzon Biotechnology Co., Ltd.	LivzonBio
Zhuhai Livzon Microsphere Technology Co., Ltd.	Livzon Microsphere
Livzon Group Xinbeijiang Pharmaceutical Manufacturing Inc.	Xinbeijiang Pharmaceutical
Gutian Fuxing Pharmaceutical Co., Ltd.	Gutian Fuxing
Jiaozuo Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd.	Jiaozuo Livzon
Livzon Group (Ningxia) Pharmaceutical Manufacturing Co., Ltd.	Ningxia Pharmaceutical
Zhuhai FTZ Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd.	Livzon Hecheng
Livzon Group Fuzhou Fuxing Pharmaceutical Co., Ltd.	Fuzhou Fuxing
Livzon MABPharm Inc.	Livzon MAB
Shanghai Livzon Biotechnology Co., Ltd., Jiaozuo Branch	Shanghai Livzon Bio

Data Sources and Reliability Statement

Data and cases disclosed in this report are derived from official documents, statistical reports, relevant public information and internal reporting documents. Joincare guarantees that this report does not contain any false representation or misleading statement and assumes liability for the authenticity, accuracy and integrity of this report.

Confirmation and Approval of this Report

The contents of this report have been confirmed by the management and been approved by our Board of Directors on 7 April 2023.

Access and Response to the Report

This report can be accessed or downloaded from the official website of the Shanghai Stock Exchange (www.sse.com.cn) and our official webpage (www.joincare.com). Should you need to make further inquiries, comments or suggestions regarding this report, please contact us via fax (0755-86252165) or email (joincare@joincare.com).

This report is originally written in Chinese, and this English version is for stakeholders' reference only. Should ambiguities arise between the two versions, the Chinese version shall prevail.

02

Chairman's Statement

Dear stakeholders and friends:

2022 was a vital year for the 14th Five-Year Plan. This year, at the 20th National Congress of the Communist Party of China, an inspiring blueprint was drawn up for future development, including promoting a Healthy China. 2022 also marked the 30th anniversary of Joincare. Given the new circumstances and requirements of the healthcare industry, we overcome difficulties, actively respond to the challenges and seize opportunities in the new journey. Following the dual-drive strategy of innovative medicines and high-barrier complex drug formulations, we focus on developing our main business of pharmaceuticals and ensuring sound operation. We won the CSR Pioneer Award at the 3rd ESG Business Summit Forum held by Cailian Press in 2022 for our high-quality innovation and R&D and fulfilment of corporate social responsibility in the healthcare sector.

Adhering to the mission of "For the health, For the future" and the vision of "Diligently make high-quality and innovative drugs", we have a well-balanced pipeline and a diversified mix of products in areas with high clinical demand, including respiratory, gastroenterology, assisted reproduction, psychiatry and anti-tumour. We show care for our patients and continue to pursue technological innovation in medicines. Joincare has actively developed innovative medicines and high-barrier complex drug preparations, and built innovative R&D technology platforms for inhalation administration, antibody, and sustained-release microspheres and other medicines. Currently, at Joincare, 7 varieties of inhalation preparations in 11 specifications are on the market, and 30 respiration products are under R&D. Our existing and pipeline varieties have covered all types of inhalation medicines for asthma and COPD. In 2022, Tobramycin Inhalation Solution (健可妥[®]), a modified innovative medicine developed independently by the Group, were approved for marketing. As the world's first inhaled medicine for bronchiectasis treatment and China's first inhaled antibiotics, 健可妥[®] offers a more effective option for bronchiectasis patients with no targeted medication, which marks a milestone in the R&D of domestic high-end inhalation preparations.

We devote our efforts to the field of biomedicine and make full use of our technological advantages to contribute to global epidemic prevention and control. In 2022, the Recombinant SARS-CoV-2 Fusion Protein (CHO-cell) Vaccine (丽康[®]V-01) jointly developed by LivzonBio, one of the subsidiaries of Joincare, and the Institute of Biophysics of the Chinese Academy of Sciences, was approved for emergency use. This effort provides a better solution for heterologous booster vaccination worldwide. At the beginning of 2023, Tocilizumab Injection (Atvtia[®]) was approved for marketing, which tackles the shortage of medicines for patients with severe COVID-19 infection.

Guided by the corporate value of "Putting People First", we value talent development and protect the rights and interests of employees, to enhance their sense of well-being. For the common progress of employees and Joincare, the Group has established a diversified training system and a comprehensive compensation and welfare system and provided multi-dimensional career paths and long-term incentive plans for employees. At Joincare, talents are the most valuable assets and essential for us to pursue sustainable development. We express our sincere gratitude to all our employees for their ingenuity and hard work.

In pursuit of green development, we adopt a green operation strategy to protect the environment. In 2022, the Board of Directors deliberated and approved the Proposal for Adding Carbon Emission Goals to Joincare's Environmental Management. In the proposal, the Group pledges to achieve carbon peaking by 2028 and carbon neutrality by 2055 and adds ESG indicators to the personal performance assessment of our Social Responsibility Working Group to better integrate corporate strategies with social responsibilities.

We devote ourselves to public welfare and support national strategies of “Healthy China” and “Rural Revitalisation”. To promote community development, we encourage employees to participate in volunteer activities, make donations, and carry out activities to spread health knowledge. We implement plans to assist relevant industries to help people in difficulties find jobs and advance a common prosperity. We continue to carry out our “Program on Chronic Diseases” to help low-income patients with chronic diseases, bringing tangible benefits to people.

We believe that hard work pays off. Looking ahead to 2023, Joicare will stay true to its original aspiration and forge forward with legacy and innovation. We will work with those full of zeal to hold the bottom line of product quality and devote ourselves to R&D. We will join hands with stakeholders to advance the cause of health and help build a Healthy China with concrete actions.

Chairman:



April 7, 2023

03

About Joincare

3.1 Group Overview

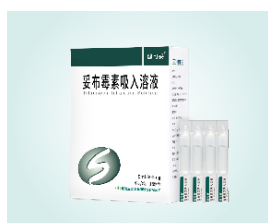
The business scope of Joincare covers multiple areas, such as chemical pharmaceuticals, traditional Chinese medicine (TCM) drugs, biologics, chemical active pharmaceutical ingredients (APIs) and intermediates, diagnostic reagents and equipment, and healthcare products. The diversified portfolios and mix of products have enabled the Group to have greater market and growth opportunities.

The Group has strong R&D capabilities and global R&D concepts in the fields of chemical pharmaceuticals, traditional Chinese medicine, biologics, diagnostic reagents, health care products. Our R&D pipelines focusing on the fields of respiratory, anti-infection, anti-tumour, gonadotropic hormones, gastroenterology and neurology are refined and well-balanced. In recent years, we have devoted ourselves to innovating and improving monoclonal antibodies (MAB), inhalation formulations, long-acting sustained-release microspheres, complex injection formulations and other technology platforms. Through the efforts mentioned above, we further improve our product portfolios, business and core competitiveness.

Table: Main Products of the Group

Chemical Pharmaceuticals

Respiratory



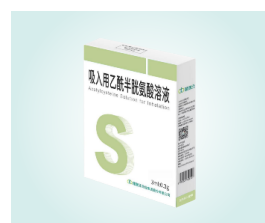
健可妥®
Tobramycin Inhalation
Solution



丽舒同®
Levosalbutamol Hydrochloride
Nebuliser Solution



雾舒®
Budesonide Suspension for
Inhalation



健尔清®
Acetylcysteine Solution for
Inhalation

Gastroenterology



壹丽安®
Ilaprazole Enteric-Coated
Tablets



壹丽安®
Ilaprazole Sodium for Injection



丽珠得乐®
Bismuth Potassium Citrate
Tablets



丽珠维三联®
Bismuth Potassium Citrate
Tablets/Tinidazole Tablets/
Clarithromycin Tablets

Anti-infection



倍能®
Meropenem for Injection



丽福康®
Voriconazole for Injection

Gonadotropic hormones



贝依®
Leuprorelin Acetate
Microspheres for Injection

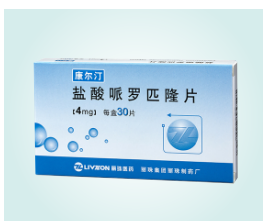


丽申宝®
Urofollitropin for Injection

Psychiatry



瑞必乐®
Fluvoxamine Maleate
Tablets



康尔汀®
Perospirone Hydrochloride
Tablets

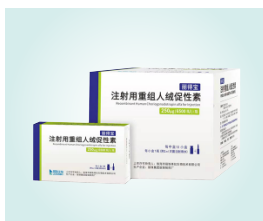
Biologics



丽康®V-01
Recombinant SARS-CoV-2 Fusion
Protein Vaccine (CHO cell)



Atvtia®
Tocilizumab Injection



丽得宝®
Recombinant Human
Choriogonadotropin alfa
for Injection



丽康乐®
Mouse Nerve Growth Factor
for Injection

Chemical APIs and intermediates

Drugs for humans:

7-ACA, Meropenem Trihydrate, Daptomycin, Dalbavancinee,
Vancomycin, Mevastatin and Acarbose

Veterinary drugs:

Milbemycin Oxime and Moxidectin

TCM drugs



Anti-tumour medicine
Shenqi Fuzheng Injection



Cold medicine
Anti-viral Granules

Diagnostic reagents and equipment



Rapid Test for 2019-nCoV Antigen
(Lateral Flow)



Antinuclear Antibody Test Kit (17)
(Magnetic Barcode
Immunofluorescence)

Healthcare products



Jingxin Oral Liquid



Eagle's American Ginseng Tea

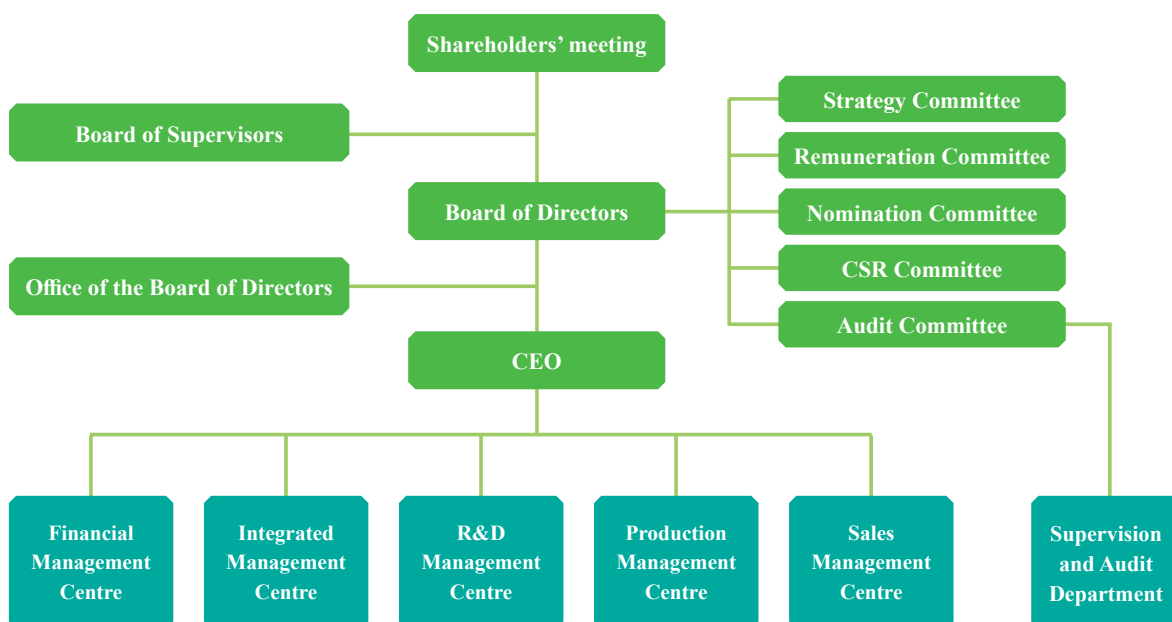


Taitai Oral Liquid



Eagle's American Ginseng
Tea Beverage

3.2 Organisational Structure



3.3 Corporate Culture



Mission

For the health, For the future



Vision

Diligently make high-quality and innovative drugs



Core values

Putting people first, Valuing workmanship and quality, Pursuing innovation and truth, Promoting cooperation and sharing

Joincare has forged ahead for three decades despite twists and turns, always staying true to its original aspiration in its ongoing inheritance and innovation. Gradually, we have formed a strong sense of duty – “For the health, For the future”. Along this journey, we always act in the interests of patients and focus on safeguarding human life and health. We continuously increase our investments in R&D and innovation, work with top domestic and overseas R&D teams to conduct in-depth research and strategic planning, and carefully conceive a new vision of “Diligently make high-quality and innovative drugs”. In addition, we actively and continuously contribute to building a community with a shared future for the public. Even while focusing on business development, we are committed to empowering employees. With “Putting people first, Valuing workmanship and quality, Pursuing innovation and truth, Promoting cooperation and sharing” as core values, we consider the quality of products, the training of talents, and the strength of R&D of the utmost importance, thereby aligning the values of the enterprise with those of our employees.

3.4 Key Performance

During the reporting period, Joincare achieved total revenues of RMB17.143 billion, representing a year-on-year increase of 7.79%; achieved net profits attributable to shareholders of the listed company of RMB1.503 billion, representing a year-on-year increase of about 13.10%; and achieved net profit attributable to shareholders of the listed company after extraordinary gain or loss of RMB1.419 billion, representing a year-on-year increase of about 15.84%.

At the same time, the Group has been actively undertaking corporate social responsibilities and constantly creating social value. In 2022, the Group generated tax revenues for the government of RMB 1.668 billion, paid RMB 2.261 billion in salary to employees, distributed dividends and paid interest worth RMB 1.351 billion to banks and other creditors, donated funds and goods totalling RMB 12.117 million to society, and achieved a social contribution per share of approximately RMB 3.52 for the society.

Total revenues

17.143 billion

Net profits attributable to shareholders of the listed company

1.503 billion

Tax revenues for the government

1.668 billion

Salary to employees

2.261 billion

Donated funds and goods

12.117 million

Social contribution per share

3.52

3.5 Honours

1 January 2022

Medal of Honour of the Red Cross Society of China
Red Cross Society of China

5 September 2022

Top 500 Enterprises of the Chinese Manufacturing Industry
China Enterprise Confederation
China Enterprise Directors Association

1 December 2022

CSR Pioneer Award
Cailian Press

25 April 2022

Included in the 2021 Key Trademarks Protection List in Guangdong Province
Key Trademark Protection Committee of Guangdong Trademark Association

1 July 2022

2021 Top 100 Chinese Chemical Drug Enterprises
Expert Committee of Chinese Pharmaceutical Industry for Top 100 Enterprises List

7 November 2022

“Access to Healthcare for Chronic Diseases Prevention and Treatment Program” - Top 100 Citizen Satisfaction Program
Shenzhen Municipal Guidance Commission on Building Spiritual Civilisation, Shenzhen Project Care Organizing Committee Office

28 December 2022

Best Growing Listed Company in Biomedical Industry
National Business Daily

04

Governance

Joincare pays greater attention to its sustainable development and adheres to create social value through compliant and robust operations. We integrate the CSR strategy into our daily operations and management, and actively communicate with stakeholders to protect investors' rights and interests. In pursuit of sustainable development, we adhere to the party-masses spirit and the principles of law compliance, integrity and self-discipline.

4.1 CSR Strategy

Joincare actively fulfils CSR and drives growth in the healthcare industry with innovation to help build a Healthy China and create a green and bright future. Focusing on “health”, the Group aligns its CSR strategy with its development strategy to guide its efforts to promote sustainable development. “To better meet the clinical needs” is our eternal pursuit. We are committed to providing the whole society with high-quality, safe, accessible and affordable medical products and services, continuously promoting the overall strength of the health care industry, and actively taking responsibility for environmental protection. Meanwhile, we strive to empower employees, contribute to the community, dedicate ourselves to social welfare and promote social development.

4.2 CSR Governance

Joincare has set up CSR governance systems to ensure the implementation of CSR strategy and the achievement of CSR goals. In July 2020, the Group formally established the Social Responsibility Committee of the Board of Directors and the Social Responsibility Working Group. The Board of Directors of the Group has reviewed and adopted the Social Responsibility Management Policy of Joincare, which clarifies the duties and work scope of the Social Responsibility Working Group and standardises the division of labour among functional departments.

The main duties of the Social Responsibility Committee of the Board of Directors are studying and formulating the Group’s social responsibility strategy and internal policies; reviewing and determining the plans and measures for social responsibility fulfilment; supervising the implementation of such plans by the Group’s Social Responsibility Working Group; supervising, inspecting and evaluating the Group’s fulfilment of social responsibilities and giving advice. The Social Responsibility Committee has the right to question the major matters occurring in the production and operation process with an influence on the Group’s fulfilment of social responsibilities. It is responsible for inspecting and urging the handling of related matters.









The Social Responsibility Committee of the Board of Directors is composed of three directors, including one independent director, and is chaired by the chairman of the Board of Directors. The Social Responsibility Working Group has 30 members, with the Group’s President serving as the group head, and the heads of important functional departments, including the Office of the Board of Directors, the Quality Management Department, the Environment, Health and Safety (EHS) Department and the Human Resources Department, are members of the working group. The working group is responsible for daily work liaison, reporting and meeting organisation. ESG indicators have been added to the individual performance assessment of all members of the working group since 2022.

4.3 Communication on CSR

4.3.1 Communication with Stakeholders

Joincare actively creates value for stakeholders. By establishing a regular and effective mechanism to communicate with stakeholders, we timely respond to stakeholders' demands through various channels, aiming to achieve positive interaction with stakeholders and create a win-win situation.

Table: Communication requirements of and methods with stakeholders

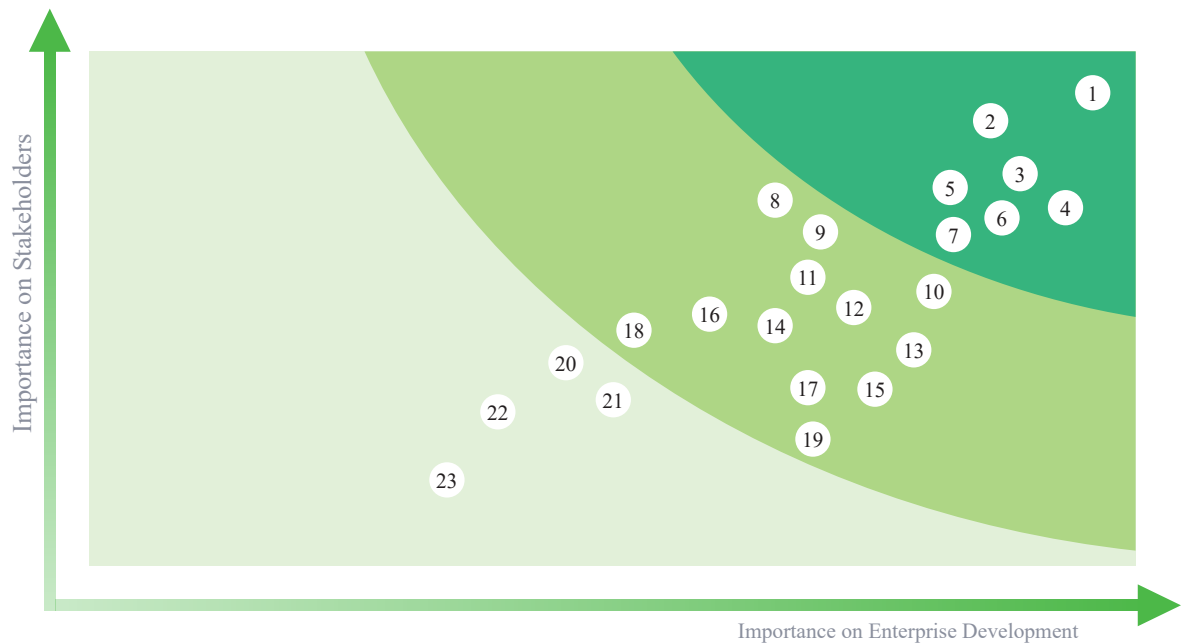
Stakeholders	Communication Requirements	Communication Methods
 Employees	Protecting employees' rights and interests Caring for employees and communicating with them to know their requirements Providing salaries and welfare benefits, as well as training for development	Workers' congresses and labour union Employees' satisfaction survey Occupational health and safety training Platforms for feedback Daily communication and visits
 Investors	Conducting standardised governance and strict risk control Ensuring sound operation and value creation Providing open and transparent information disclosure	Shareholders' meeting Regular releases of business information and data By telephone, fax, email, and online voting at the general meeting Through the investor's survey, platforms for interactive communication and exchange, and external roadshows WeChat official account
 Consumers	Guaranteeing product safety and consumers' rights and interests Protecting privacy and observing business ethics	Product labelling and information disclosure Regular visits Consumers' satisfaction survey Handling of complaints and opinions
 Distributors, suppliers and partners	Guaranteeing honest business operation and pharmaceutical compliance Facilitating timely communication and win-win development	Regular communication Working meetings and exchanges via telephone and correspondence Company's website
 Government and regulators	Working in compliance with laws and ensuring drug safety Cooperating with the government's regulations and operating in light of regulations Paying taxes in accordance with laws and creating jobs	Government-enterprise symposiums Supervision and inspection Work reports and surveys
 Media	Promoting effective interaction and information disclosure	Interactive communication platforms Special reports External roadshows
 Pharmaceutical industry associations/organisations	Promoting fair competition and experience sharing	Industry organisation meetings Experience sharing sessions Site visits and exchanges
 Community / The public	Charity Boosting community development and creating social value	Volunteering activities Money and medicine donation Medicine knowledge publicity

4.3.2 Decision of Material Issues

This year, the Group engaged external professional consultants to conduct questionnaires on stakeholders to understand their views on material issues and conducted the materiality assessment. Following the steps of issue identification, stakeholder engagement, analysis of findings and prioritisation of material issues, we have updated this year’s material issues as the basis for the formulation of this report.

We determine the materiality of issues by following four steps:

- 01 Identification of issues** Material issues for the current year are identified based on reporting standards, peer benchmarking, and industry sustainability trends and in the light of the Group's business development.
- 02 Research on issues** Stakeholders, such as senior management, suppliers, investors, consumers and government departments, are invited to participate in the survey in the form of questionnaire to understand their key concerns.
- 03 Prioritisation of issues** Based on the results of peer benchmarking and communication with stakeholders, the issues are prioritised from two dimensions of the materiality to external stakeholders and to Joincare.
- 04 Disclosure of issues** According to the results of materiality assessment, the focus areas of the report are determined and a matrix of material issues for the year is prepared.



- | Highly Material Issues | Moderately Material Issues | Generally Material Issues |
|---|---|---|
| <ul style="list-style-type: none"> 1 Product Quality and Safety 2 Occupational Health and Safety 3 Emission Management 4 Product R&D and Technological Innovation 5 Corporate Governance and Compliance Operations 6 Protection of Intellectual Property Rights 7 Water Resources Management | <ul style="list-style-type: none"> 8 Protection of Labor Rights 9 Business Ethics and Anti-Corruption 10 Talent Attraction, Retention and Development 11 Employee Remuneration and Benefits 12 Customer Privacy and Data Security 13 Energy Efficiency and Management 14 Sustainable Supply Chain Management | <ul style="list-style-type: none"> 15 Responsible Marketing 16 Industry Development and Cooperation 17 Resource Consumption Management 18 Access to Healthcare 19 Investor Relations Management 20 Diversity, Equality and Inclusiveness 21 Biodiversity Conservation 22 Climate Change Mitigation and Adaptation 23 Charity |

4.4 Compliance Governance

In strict accordance with the requirements of the Company Law of the People's Republic of China, the Securities Law of the People's Republic of China, the Code of Corporate Governance for Listed Companies, the Rules Governing the Listing of Stocks on the Shanghai Stock Exchange and other relevant laws, regulations and regulatory documents, Joincare continuously improves its standardised governance. We have strengthened information disclosure management and investor relations management and made efforts to improve internal controls and governance structures to ensure effective operations.

4.4.1 Protection of Shareholders' Rights and Interests

Joincare actively protects shareholders' rights and interests. We convene and hold general meetings in strict accordance with the Articles of Association, the Rules of Procedure for General Meetings and other relevant regulations to ensure that resolutions are made in a fair and open manner. We make full use of information technologies such as online voting to ensure that all shareholders, especially our minority shareholders, can exercise their right to know and participate in decision-making in a more efficient and effective way.

We have established a long-term mechanism for preventing the controlling shareholder or the de facto controller and other related parties from occupying funds of the listed company and infringing upon the interests of the listed company and formulated the Policy for Preventing the Controlling Shareholder or the De Facto Controller and Other Related Parties from Occupying Company Funds. These efforts are made to ensure steady development. Relying on its independent business and autonomous operation ability, Joincare always maintains independence. The Group and its controlling shareholder implement independent management and accounting in business, personnel, assets, institution and finance. The controlling shareholder of the Group exercises its rights and assumes its obligations in strict accordance with laws and regulations. It does not directly or indirectly interfere with the decision-making and business activities of the Group by bypassing the general meetings. During the reporting period, no disputes arose from the appropriation of the Group's assets by the Group's controlling shareholder, or the de facto controller and other related parties and the detriment of the interests of the Group and the minority shareholders.

4.4.2 Performance of Duties of Directors and Supervisors

The Group keeps improving the management structure of the Board of Directors for better governance, with diversity reflected from gender, expertise, etc. We have formulated the Board Diversity Policy and disclosed it on our website, to ensure that diversity is taken into account when the Nomination Committee selects Board members. In terms of diversity, besides educational backgrounds, professional experience, expertise and tenure, factors such as gender, age, nationality, cultural backgrounds and ethnicity are also included. At the same time, we disclose measurable targets for the implementation of the diversity-related policies and relevant progress in the social responsibility report on an annual basis.

The number of members of the Board of Directors is nine (four independent directors in total); there are three female directors, accounting for over 30% of the total. Members of the Board of Directors comprise experts in the pharmaceutical industry and professionals in the fields of corporate management, finance, accounting, law and production. They provide forward-looking and scientific opinions for the Group's governance and major decision-making. In addition, the Board of Directors has established the Audit Committee, the Remuneration Committee, the Strategy Committee, the Nomination Committee and the Social Responsibility Committee to assist in performing the functions of the Board. It has given full play to the professional advantages of each committee to ensure the legality, scientificity and accuracy of its decision-making.

There are three supervisors in the Supervisory Committee of Joincare, including one employee representative. The Supervisory Committee performs its duties in accordance with the law, supervises the performance of duties of the Group's directors and senior management, regularly inspects the Group's financial affairs, pays attention to the Group's major investment projects, and fully safeguards the interests of the Company and all shareholders.

4.4.3 Disclosure Transparency

Guided by the needs of investors and subject to compliance, We actively fulfil our information disclosure obligations in strict accordance with the relevant standards and guidelines of the China Securities Regulatory Commission and the Shanghai Stock Exchange and the disclosure requirements of the Management System for Information Disclosure Affairs formulated by us. Joincare uses new methods of information disclosure and strengthens its timeliness and transparency to ensure that investors have equal and timely access to accurate information.

In 2022, Joincare continued to improve standardised operation and governance structure. In accordance with the latest provisions of relevant laws, regulations and normative documents such as the Company Law of the People’s Republic of China, the Securities Law of the People’s Republic of China, the Guidelines for Articles of Association of Listed Companies and the Rules Governing the Listing of Stocks on Shanghai Stock Exchange and based on the Group’s actual situation, we convened the Board of Directors and general meetings to amend a total of 14 policies, including the Articles of Association, the Management System for Information Disclosure Affairs and the Work System for Independent Directors.

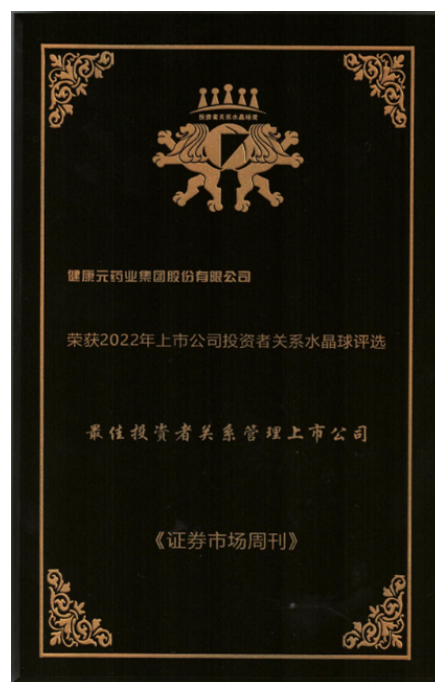
During the reporting period, we filed and disclosed 252 disclosure documents. Our published contents had approximately 3.67 million words in Chinese characters, making us top 97% of the domestic public companies in the industry regarding the quantity of information disclosure. The regulatory authorities and the capital market fully affirmed our information disclosure work. In August 2022, we were again awarded the highest “A” (Excellent) rating in evaluating the information disclosure work of listed companies organised by the Shanghai Stock Exchange in 2021 and 2022. In December 2022, we won the award of the “Excellent Practices of the Office of the Board of Directors in 2022” in the “Best Practices of the Office of the Board of Directors” selection campaign held by the China Association for Public Companies.

4.4.4 Investor Relations

We believe that communication strengthens trust, and we highly recognise the importance of communication with investors. In order to improve communication and contact with minority shareholders and timely respond to relevant issues raised by shareholders on the production and operation of the Company, Joincare has established a sound communication mechanism and formulated the Regulations on Investor Relations Management and other related rules. Additionally, The Board of Directors designated a particular department and relevant staff to take charge of information disclosure and investor relations management. Moreover, we actively provide investors with information disclosed by the Group and establish various communication channels and platforms for our investors. We listen earnestly to the suggestions and opinions of shareholders, protect the legitimate rights and interests of domestic and overseas investors, especially those of the minority shareholders, and we ensure that all shareholders have equal access to information.

In 2022, Joincare held three online results release conferences, participated in the 2022 Online Investor Reception Day Event for Listed Companies in Shenzhen, and actively responded to the questions raised by investors via sns.sseinfo.com (上证e互动) and the investor service hotline. During the reporting period, we communicated with and responded promptly to our investors via the official telephone and sns.sseinfo.com 233 and 148 times, respectively. Moreover, we published 17 articles on our WeChat official account, covering topics of concern for investors, such as corporate performance, business updates, IR events, and ESG governance. Meanwhile, Joincare participated in investment strategy meetings organised by securities traders to maintain good relations with securities analysts, and engaged in investor and analyst outreach, reaching over 500 participants in both online and offline events.

In 2022, the Company won the honorary title of “The Listed Company with the Best Investment Relation Management” in the 2022 Crystal Ball Awards for the Investor Relations of Listed Companies by the Capital Week.



The Listed Company with the Best Investment Relation Management

4.5 Carrying Forward the Party-Masses Spirit

In 2022, guided by Xi Jinping’s Thought on Socialism with Chinese Characteristics for a New Era, the general Party branch of Joicare fully implemented the spirit of the 20th CPC National Congress and the Central Economic Work Conference in the corporate Party building. We promoted the coverage of Party organisations and Party work at the primary level, and gave full play to the role of Party members. We comprehensively implemented the development concepts of innovation, coordination, green, openness and sharing, to help invigorate the market competitiveness of enterprises.

We strengthened the theoretical guidance on Party building and continuously practised the system of holding Party branch general meetings, meetings of Party branch committees, Party group meetings, and Party lectures. Also, we strengthened the engagement between the Party and the people, and actively promoted the building of the Party-masses culture, thus enhancing the vitality of corporate Party branches. Through deepening the education on Party discipline and regulations, we have strengthened our consciousness of the need to maintain political integrity, think in big-picture terms, follow the leadership core, and keep in alignment with the central Party leadership, and made an effort to build a high-quality Party member team that is loyal to the Party, upholds integrity and has a keen sense of responsibility. Joicare seized the opportunity of the 14th Five-Year Plan. Guided by CSR, we adopted various forms of learning, such as centralised study, listening to reports, and special seminars, to create a good CSR atmosphere.

Under the guidance of the general Party branch of Joicare, we coped with challenges posed by COVID-19 by supplying our products to where they are needed. At the same time, we have actively participated in social welfare projects and organised Party members and volunteers to support various front-line epidemic prevention sites. We helped the social groups affected by the pandemic and played a pioneering and exemplary role in the social response to the epidemic.

Case



Joicare established a joint practice base for Party members to study “ecological protection” at the Old Creek

In November 2022, Joicare, Tencent and Shenzhen Jinhuo Enterprise Co., Ltd. jointly established the practice base for Party members to study “ecological protection” at the Old Creek Nature Reserve, in response to the call of General Secretary Xi Jinping to “promote green development and ensuring harmonious co-existence between humanity and nature”. At the same time, we explored new paths of regular party-building activities and resource sharing after this activity, aiming to pursue ecological conservation and promote comprehensive rural revitalisation.



4.6 Integrity and Business Ethics

Joincare attaches great importance to business ethics. We are committed to establishing a good corporate image with integrity and self-discipline business philosophy and practice by complying with the Criminal Law of the People's Republic of China, the Law of the People's Republic of China Against Unfair Competition, the Interim Provisions on Prohibition of Commercial Bribery and other relevant laws and regulations. The Audit Committee of the Group's Board of Directors coordinates the comprehensive work plans to supervise the issues related to business ethics, and the Supervision and Internal Audit Department is responsible for the implementation to ensure legal and compliant business. We protect the rights and interests of the Group and our stakeholders by continuously improving integrity systems, strengthening audit and supervision over internal management, and promoting integrity culture to raise integrity awareness. In 2022, there were no violation cases of corruption, bribery, fraud and money laundering.

4.6.1 Enhancing Anti-corruption Mechanism

Under a sound management system for integrity, Joincare manages business ethics and anti-corruption issues at the level of the Board of Directors. The Group has deliberated and approved the Anti-Corruption and Anti-Commercial Bribery System and the Anti-Fraud System at the 22nd session of the 8th Board of Directors' Meeting. The policies were disclosed on its official website for employees to study. They defined ethical standards to regulate the conduct of employees and partners, thereby promoting the sound development of the Group. Specific requirements have been set up for certain high-risk business segments, including the Financial Management System, the Outbound Investment Management System, the Cost Control, the Accounting Organisation and Accounting Personnel Management System, to ensure legal and compliant operations. The policies mentioned above are applicable to all the employees of Joincare. In addition, in 2022, we newly formulated the Management Measures for Material Procurement of Joincare, the Administrative Rules for Bidding on Engineering Construction Projects of Joincare, and the Implementation Rules for Procurement Evaluation of Joincare to further strengthen the internal control and management processes for the procurement of engineering, equipment, raw materials and excipients.

Joincare clearly implements the anti-corruption management responsibility and requires employees, management and partners to comply with business ethics to prevent the risk of corruption and safeguard a fair and just market environment. We require all employees to receive training on the code of conduct at the onboarding stage and sign the Commitment Letter of Anti-commercial Bribery to fully understand the bottom line of compliance, thus eliminating integrity violations. The management shall sign the Oath of Integrity for Senior Executives of the Company to ensure that they work with integrity and self-discipline. At the same time, we strictly regulate the process in business cooperation to ensure that the process is fair and just. A bidding team and a bid evaluation team, composed of members from the Group and its subsidiaries, rate potential suppliers regarding technology and business and identify the supplier with the highest score to avoid subjective judgement, corruption and fraud. When signing a contract with the Group, all suppliers shall commit anti-corruption and anti-commercial bribery, sign the Anti-Commercial Bribery Agreement with the Group as an appendix to the contract and promise not to violate business ethics during the performance of the contract.

4.6.2 Internal Audit and Supervision

Joincare complies with the applicable laws and regulations, such as the Provisions of the National Audit Office on Internal Audit and the Guiding Opinions of the General Office of the State Council on Reforming and Perfecting the Comprehensive Supervision System for the Medical and Health Industry, and formulates the Rules for Implementation of the Audit Committee, the Internal Control System, to regulate internal control work of the Group. This year, we added the Management System for Economic Responsibility Audit to specify the requirements for off-office auditing for the management and job audit where necessary. Guided by the Audit Committee of the Board of Directors, the Group's Supervision and Internal Audit Department formulates the annual work scheme for audit and supervision and carries out audit for the Group and its subsidiaries, reviewing and supervising the implementation of the ethical standards, anti-corruption and anti-commercial bribery policies of each subsidiary. We, on an annual basis, conduct audit on all subsidiaries, with the Annual Internal Control Report issued, and develop audit plans.

In 2022, in accordance with the audit scheme, the Audit and Supervision Department audited all subsidiaries, with 3 special-purpose audits performed, and participated in the internal audit of holding subsidiaries. The scope of the audits covered the whole operation process module, including the internal control management and implementation of subsidiaries' business activities, particularly the management of engineering, financial and expense, personnel, procurement, inventory, quality, EHS, contract and other aspects. For defects detected in the audit, we require the audited company to complete the rectification based on relevant recommendations within 120 days and verify the rectification results. No major defects were found in 2022.

4.6.3 Whistleblower Protection

Joincare formulates and publicises the Measures for the Management of Reporting and Complaining, which clarifies that all the employees, customers and suppliers of the Group have the right to report corruption, bribery, fraud and other misconducts to fully protect the reporting rights of employees and partners. We set up various reporting channels available on the Group's official website, and we accept reports by letter, telephone, email, etc. The Group's Supervision and Internal Audit Department are responsible for the acceptance of reports, timely investigation and handling, and case summarising and reporting. The case shall be completed within 30 days from the date of acceptance, and the result shall be notified to the whistleblower. At the same time, we actively protect whistleblowers' legitimate rights and interests. According to the requirements of the relevant policies, Joincare strictly keeps confidentiality of the information on whistleblowers as well as the content of reports and complaints. Meanwhile, Joincare incorporates the materials and records of reports into confidential documents managed by designated personnel to protect whistleblowers from the disclosure of reports.

Reporting and Complaint Channels



Tel: 0755-86252316 0755-26980226



Internal email: SAMD@joincare.com

External email: joincaresamd@163.com



Address: Joincare Pharmaceutical Group Building, No. 17-2 Langshan Road, Nanshan District, Shenzhen

4.6.4 Fostering Integrity Culture

Joincare strives to foster a corporate culture of fairness and integrity. Based on the philosophy of integrity, law compliance and honest operation, Joincare closely integrates the management of business risks into the corporate culture to fulfil CSR. In 2022, the Group's directors, supervisors and other senior management attended the "2022 Training for Directors, Supervisors and Senior Management of Listed Companies in Shenzhen" many times. The training covered anti-corruption, risk management, etc. Through corporate culture publicity and training, the Group's Supervision and Internal Audit Department guides employees to abide by disciplines and laws, develop a sense of integrity, and improve business ethics. We set out the requirements for business ethics in the Employee Manual to standardise the behaviour of all employees. We promote the culture of business ethics in the induction training of all new employees (including full-time, part-time and contract employees) to raise their integrity awareness. In 2023, we provided all our employees with training on ethical standards, including the requirements for anti-corruption and anti-commercial bribery and integrity. In addition, we pay attention to fairness in the procurement process. In 2022, we conducted 8 training sessions with the theme of "Anti-Corruption and Anti-Commercial Bribery Commitments in Procurement Activities", covering the heads of procurement, engineering and equipment departments of each subsidiary, employees in key positions involved in procurement and suppliers.

4.7 Information Security

Joincare actively promotes the application of information technology (IT). Several information systems, such as the Customer Relationship Management (CRM) system and the System Applications and Products in Data Processing (SAP) system, are in place to assist business process management and operational management. For the security and stability of IT-based operations, we attach great importance to information security management and always keep an eye on information security and customer privacy protection. The Group's Information Centre comprehensively manages information security and performs relevant work. We have formulated group-wide applicable information security management systems, such as the Management System for the Security of Computer Information System, the Management Requirements for IDC Data Centre Operation and Maintenance and the Backup System, to standardise information security management systems and processes. In addition, the Group's R&D Management Centre further ensures the security of R&D information through the use of data security encryption software and the Formulation of the Confidentiality System.

Case



Building of Joincare's system for R&D information confidentiality

In order to further maintain confidentiality, we have improved our system to keep scientific research information confidential. Based on the original R&D confidentiality system, we have incorporated technology transfer and production departments into data security encryption and the Confidentiality Policy, to ensure the security of information in the whole process from R&D to production. At the same time, we have signed confidentiality agreements related personnel in with key projects and organized regular information security training to increase employees' awareness of the confidentiality and understanding of relevant requirements. In this way, we ensure the confidentiality of information and prevent information leakage.

In daily management, the Group actively takes protection measures to ensure that the end computers are safe from viruses by deploying the Endpoint Detection and Response (EDR) system. The next-generation firewall is deployed to conduct network penetration testing and in-depth inspection of system security and carry out security assessment and vulnerability scanning. A security mechanism of the Intrusion Prevention System (IPS) is also in place, which uses a variety of defensive techniques to stop intrusion when identifying attack threats in real-time, intrusion detection as the core. In addition, we perform a regular data backup in accordance with the Backup System and regularly inspect hardware equipment to ensure data security.

In response to sudden disaster events, the Group has formulated the Emergency Plan for Network Server Systems and the Disaster Recovery Plan for Information Systems, which clarify the response mechanism and processing procedures and measures in case of emergency to ensure information security. In the past three years, no information security incidents occurred.

Case



Information security training of Livzon Group

Livzon Group, a holding subsidiary of Joincare, organised online and offline information security trainings for employees and incorporated network security into the orientation training of new employees to increase their awareness of data security and privacy protection. Furthermore, through its internal website, Livzon Group pushes information security risk tips and defensive measures at irregular intervals, such as phishing email identification and handling personal privacy protection, to stress information security risk prevention in daily work and improve information security protection.



05

Product Quality Control Mechanism

Product quality is a cornerstone for the sustainable development of Joincare. We constantly improve the product lifecycle quality management systems and further control the quality of the supply chain to provide customers with pharmaceutical products of high quality and accurate product information in a responsible manner, thus safeguarding public health.

5.1 Quality Management System

The Group puts product quality management high on the agenda. Adhering to the basic principles of "risk management, whole-process control, and social co-governance", the Group has established and refined, on a sustained basis, the quality management system, which covers the entire lifecycle of medicines, including R&D, production, sale and use. The Group undertakes the responsibilities of marketing authorisation holders ("Holder" or "MAH") and continuously strives to improve product quality to ensure safe and effective medicines.

In 2022, Joincare reviewed and optimised the quality management system for R&D, production, operation and use. In this regard, a number of documents have been newly prepared, such as the Regulations on Management of Pharmaceutical Production Sites, the Regulations on Annual Drug Report Management, the Regulations on Risk Assessment Management of Drug Production in the Same Line, the Regulations on Quality Management of Clinical Trials, and the Emergency Plan for Drug Safety. We have established an annual reporting system to report the production and sale, post-marketing research, changes and risk management of drugs to the medical products regulators every year in accordance with the regulations. Meanwhile, in line with the business development needs of the Group, we have established a medical device quality management system covering class I, class II and class III medical devices based on the requirements of the Good Manufacturing Practice for Medical Devices to incorporate lifecycle quality management of new medical devices, thus ensuring the reliability and quality of medical devices. In the future, Joincare will explore efficient ways to manage quality while ensuring compliance with external regulations to deliver effective, reliable and quality products.

5.1.1 Quality Management System in R&D

Joincare continuously improved the R&D quality management system to intensify product R&D and management. In line with the requirements of ISO9001, ICHQ10 and GMP, we keep optimising product R&D and daily records management. Each R&D unit is required to designate special QA personnel to supervise the compliance from product approval, R&D management, project operation, and technology transfer to routine inspection, thus improving the R&D quality management. In addition, we have set up the Department of Clinical Research to enhance clinical quality control and audit. We improve the quality management system for clinical trials from such aspects as investigational medicinal products (IMP), biological sample management, operation, and quality control to ensure efficiency, reliability, legality and compliance of clinical trials in all respects.

We proactively conduct internal audits and supervision of R&D quality management for improvement. In 2022, we focused on reinforcing on-site supervision and management of R&D activities. In particular, the on-site inspections cover 7 aspects, including the management of personnel and environment, instrument and equipment, materials, reference substances and preparations, stability study, data reliability testing and computerised system review, systematically carrying out inspections to ensure the internal quality requirements were implemented. To improve R&D management, we also performed internal audits on the effectiveness of the R&D quality system to identify defects in quality management processes and make targeted improvements. The scope of the internal audit includes information, data and records involved in R&D processes, covering prescription and process study, sampling, quality control study, and stability study.



5.1.2 Quality Management in Production

We have established a quality management system for the production of Joincare in accordance with the Drug Administration Law of the People's Republic of China, the Provisions for the Supervision and Administration of Drug Manufacturing, and the Good Manufacturing Practice for Pharmaceutical Products. In addition, we constantly improve the system to meet international standards and urge subsidiaries to obtain international certifications to reinforce product quality management capabilities and deliver competitive pharmaceutical products to international markets.

By the end of 2022, Joincare had 79 varieties in production registered in over 80 countries (or regions) across the globe. Overall registration and certification of Joincare's APIs, formulations, and diagnostic reagents are shown as follows:

Table: Global registration and certification of Joincare

Project		Joincare's International Quality Authentication by the end of the reporting period
International Quality Authentication	APIs	34 varieties in production registered in 64 countries (or regions)
	Formulations	22 varieties in production registered in 20 countries (or regions)
	In Vitro Diagnostic Reagents	23 varieties in production registered in 40 countries (or regions)

By the end of the reporting period, the production lines and related products of the Group and its subsidiaries had complied with the GMP regulations. Joincare and many of its production subsidiaries had passed the quality management system certification.

Table: GMP compliance of production lines of Joincare

Project		Joincare's GMP Certifications by the end of the reporting period
GMP Certification	APIs	63 production lines complied with GMP regulations
	Formulations	54 production lines complied with GMP regulations
	In Vitro Diagnostic Reagents	2 production lines companies complied with GMP regulations

Table: Certification of the quality management system of Joincare

Name	Certification
Joincare	GB/T19001-2016/ISO 9001:2015
Taitai Pharmaceutical	GB/T19001-2016/ISO 9001:2015
Joincare Haibin	ISO 9001:2015
Jiaozuo Joincare	GB/T19001-2016/ ISO 9001:2015
Fuzhou Fuxing	GB/T19001-2016/ISO 9001:2015
Ningxia Pharmaceutical	ISO 9001:2015/ISO 22000:2018
Livzon Diagnostics	ISO 13485:2016

Each production subsidiary owns laboratories for multiple testing purposes, equipped with advanced instruments, such as high-performance liquid chromatography, gas chromatography and particle size analyser, and capable of handling multiple testing projects to secure product quality. To step up quality management on production, the Analysis and Testing Centre conducts in-house testing on innovative medicines and high-end complex formulations, as well as research and testing on the compatibility of packaging materials. At the same time, we promptly perform precautionary testing to identify emerging problems and prevent quality risks at the source. Furthermore, we pay sustained attention to the latest requirements for product quality in the industry and stakeholders' expectations and engage eligible third parties to perform quality testing, if necessary.

Case



Simulated precautionary testing under transport scenarios

Brief deviations from the preset storage temperatures may occur during product transportation. To assess the potential impacts of such deviations on our products, we conducted simulated precautionary testing under various transport scenarios. In June and December, we placed temperature probes in the vehicles destined for Lhasa and Urumqi to collect the lowest and highest temperatures during transportation. With reference to the actual transportation conditions and the product quality, we designed worse testing conditions and longer storage periods. Taking Compound Ipratropium Bromide Solution for Inhalation (舒坦琳®) as an example, the solution should be protected from light under 25°C and should not be frozen. In the simulated testing, we assessed the stability of the solution at -20°C to -10°C for 10 days and at 40°C for one month. Based on the trend of the testing data, we predicted potential product quality risks. Accordingly, we provided standardised guidance for transport service providers to ensure the product quality during transportation, and control product quality and safety risks at the source.

Case



7-ACA bacterial endotoxin test of Jiaozuo Joincare

The main components of bacterial endotoxins are lipopolysaccharide (LPS) derived from the outer membrane of gram-negative bacteria, which can cause a variety of diseases if injected into the bloodstream. As customers are concerned about the amount of bacterial endotoxins in products, Jiaozuo Joincare has developed standardised operating and control procedures to test bacterial endotoxins in 7-ACA, a key intermediate. In 2022, Jiaozuo Joincare tested 3,725 batches of 7-ACA samples altogether.

5.1.3 Quality Management in Operation

In strict compliance with the Good Supply Practice (“GSP”), Joincare has formulated multiple management systems, including the Drug Traceability Management System and the Provisions for Medicine Insert Sheets and Labels, to comprehensively control product quality in the drug procurement, storage, sale and transportation process. We have built the drug product traceability system in accordance with the national regulatory requirements to fulfil the responsibilities for quality control throughout the lifecycle. In 2022, Joincare updated the Drug Traceability Management System to further clarify the responsibilities of each department for product traceability. In addition, we introduced an upgraded version of the "On-code" drug traceability information system, with functions to trace and verify key varieties and analyse traceability data. By using information technology, we record and keep drug information for traceability in a prompt and accurate manner. By updating such information to the collaborative service platform for drug traceability, we ensure that “each drug has a code, and both the drug and its code can be traced”. The upgraded system enables the real-time presentation of drug traceability data, which can help personnel in charge fix timely vulnerabilities, investigate data omissions, and significantly increase the efficiency of drug traceability.

Management of Drug Instructions and Labels

Package inserts and labels are the focus of our product quality management. The Group strictly controls the management of design, use and change of product package inserts and labels in accordance with the Provisions for Medicine Insert Sheets and Labels, the Marketed Chemicals and Biological Products Clinical Changes Technical Guidelines and the Change Management Regulations and other internal management regulations.

In 2022, the Group continued to strengthen the internal risk management on package inserts and labels, and standardised the process for any change. Changes to package inserts and labels are initiated and designed by the holder. Designs are strictly reviewed and approved by the holder's sales, production, quality control and other related departments. They have to be ultimately approved by the National Medical Products Administration to ensure the objectivity, rationality and accuracy of drug information to the greatest extent.

We classify changes according to their impact and risk to drug safety, efficacy and clinical use. Suppose changes are related to information on drug safety or pharmacovigilance plans. In that case, the Pharmacovigilance Department strictly manages the changes in accordance with the Procedures for Changes to Information Related to Safety in Package Inserts. Relevant data about drug safety is collected, reviewed and evaluated by the Pharmacovigilance Department, and then submitted to the Drug Safety Committee for review and confirmation, thus fully protecting patients' medication safety.

5.1.4 Pharmacovigilance

Strictly following the requirements of the Good Pharmacovigilance Practices (“GVP”), Joincare extended the coverage of the pharmacovigilance management system from post-marketing to the full lifecycle of drugs before and after marketing. With reference to the Guiding Principles for Pharmacovigilance Inspection, we further improve the pharmacovigilance system to standardise the pharmacovigilance practices. In doing so, we ensure compliance with the requirements of GVP, and fulfil our responsibilities for pharmacovigilance. We highlight the collection and reporting of adverse drug reactions. We add the QR code for information collection on the outer packaging and in the insert sheets of products to provide a convenient channel for customers' feedback, which covers all the products held by the Group (The coverage rate has reached 100%). In addition, we actively seek feedback on adverse reactions from users through our 400 hotline, official website and pharmacovigilance email. We regularly collect information on adverse reactions to similar products through relevant professional websites or literature searches. By doing so, we provide prior alerts and ensure that drugs with quality and safety risks can be recalled and responsibilities can be investigated. In 2022, Joincare actively collected a total of 31 adverse events.

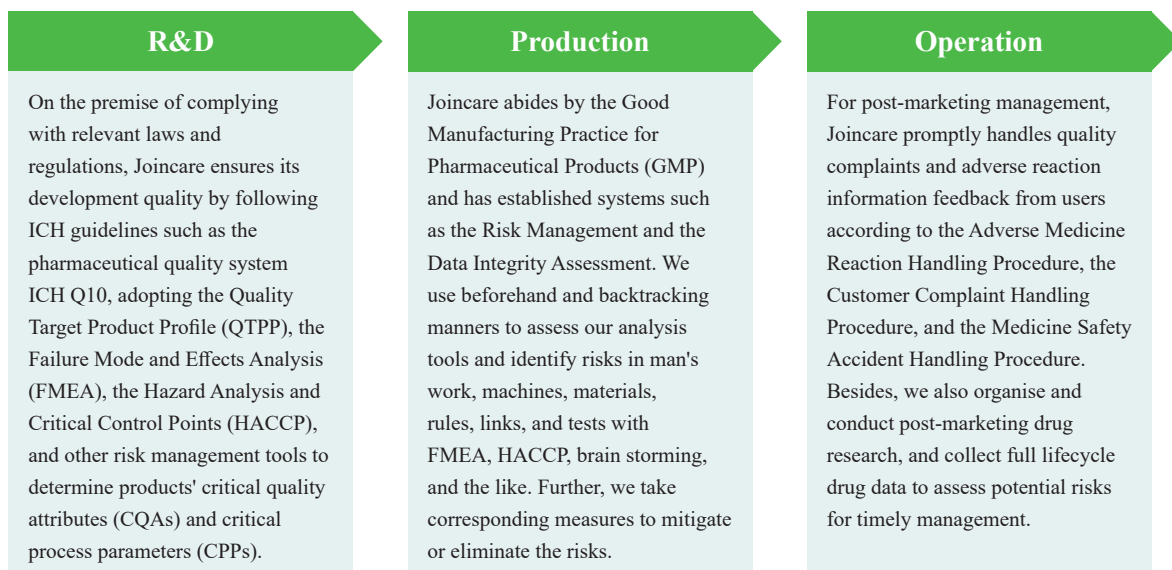
5.2 Quality Risk Control

Joincare attaches great importance to product quality risk control. We have established the Regulations on Quality Risk Management and the Regulations on Risk Management Plan with reference to the requirements of relevant laws and regulations to standardise the processes of identification, analysis, evaluation, control and review of quality risk.

5.2.1 Quality Risk Management

In order to enhance the capability of quality risk management, Joincare has established a risk management system covering R&D, production and operation to manage quality risk in the entire product lifecycle.

Quality Risk Management System of Joincare



Product recall simulation is exercised every two years at Joincare to ensure our recall system is effective. We also implement a product risk management scheme to ensure that the risk management of post-marketing products is in line with related pharmacovigilance laws and that the products' quality always serves their intended purposes and satisfies the registration requirements. At the same time, we have developed the Drug Recall Management Procedures to guide the recall of products in case of quality problems or other safety hazards. We also classify drug recalls into primary, secondary and tertiary ones according to the severity of safety hazards. We also have corresponding recall procedures in place to protect patients' lives better and ensure safe medicines. In 2022, we revised the Drug Recall Management Procedures to add recall requirements for IMP in accordance with the new Measures for the Administration of Drug Recalls that took effect. During the year, there were no recall incidents related to our sold or shipped products for safety or health reasons.

Case



Response to major product safety incidents

In May 2022, Joincare organised the Drug Safety Committee to hold a meeting to discuss the emergency response plan for drug safety issues such as public health emergencies, and planned to conduct emergency drills for major product safety events the following year to further enhance drug safety and improve response capabilities.

5.2.2 Quality Audit

In order to continuously improve the quality management system, the Group has made periodic quality audit plans covering all the producers, operators, and R&D institutions. Special audits are conducted from time to time based on management demands and external regulatory changes. We perform quality audit work at least annually in our production subsidiaries with reference to GMP regulations and the On-site Audit Management Procedures to identify risks and defects in the daily operation of the quality management system, and make analysis and rectification accordingly to improve quality management capabilities.

In addition, we strengthened the quality management of the entrusted production enterprises this year. The Group and its subsidiaries organised an audit team to conduct 6 quality audits on the production system, packaging system, material system, equipment and facility system, quality assurance system, quality control system and environmental protection of entrusted production enterprises. We also urged them to rectify the defects identified in the audits actively. Meanwhile, Joincare actively cooperated with various external quality audits, which analysed and promptly rectified the defects identified by external experts to enhance quality management continuously.

5.3 Quality Culture Cultivation

Joincare attaches great importance to product quality training and publicity, and has established quality training management procedures for employees based on GMP, GSP, GVP, and CNAS regulations. We conduct training, quality month activities and quality culture promotion every year to enhance staff awareness of product quality and their product quality management capability, thus creating a corporate culture centred on product quality and safety.

Joincare carries out “Quality Month” events for all employees on an annual basis. Every Month, we provide professional and customised training courses for all relevant quality systems personnel, covering quality control, as well as R&D, production, sales and pharmacovigilance management. In this way, we ensure that relevant personnel are equipped with professional skills and qualities and updated with changes in external regulations and quality standards, thus supporting the effective operation of the quality management system. In 2022, Joincare conducted more than 400 quality-related training sessions, with a total of more than 2,700 hours delivered.

Case



“Quality Month” events in 2022

To foster a quality culture and implement the quality management system, we are committed to raising all employees’ awareness of “focusing on quality and compliance”. For this purpose, Yu Xiong, the Group’s Board director and CEO, supervised and organised the headquarters, Taitai Pharmaceutical, Haibin Pharma and Joincare Haibin to jointly carry out “Quality Month” events, including quality training, quality knowledge contests, operation skill competitions and quality-themed salons. During the Quality Month, we held 8 training sessions covering such standards as GMP, GSP, GVP and GCP. At the same time, we organised all employees to participate in competitions focusing on quality management and product knowledge of R&D, production and operation, with a total participation rate of 72%. Through the “Quality Month” events, we drew attention of all employees to quality management in all process and periods with full coverage to create the atmosphere of quality management with full participation.



Case



Quality-themed training of Haibin Pharma

Haibin Pharma organised 6 training sessions themed on contamination control strategy (CCS) in the EU GMP Guidelines in November and December 2022 to learn the practical application of CCS in different areas such as aseptic processing design, aseptic production operations, laboratory management, plant facility design and validation, and cleanroom environmental monitoring. After the training, employees reviewed the current status of the CCS application in the corresponding fields in panels, identified gaps and proposed improvement plans for practical use.



Case



Third quality culture-building activity of Joincare Haibin

To fully implement the Group’s quality management system, Joincare Haibin held the third quality culture-building activity from May to August 2022. The activity was centred on “safeguarding health with quality”, with the theme of “practices in line with rules”. The activity comprised 7 events, including training, operation skills competition, sharing of quality stories, brainstorming contest, 5S management competition, QCC competition and quality knowledge contest, which attracted many employees and effectively increased their awareness of “quality and compliance”.

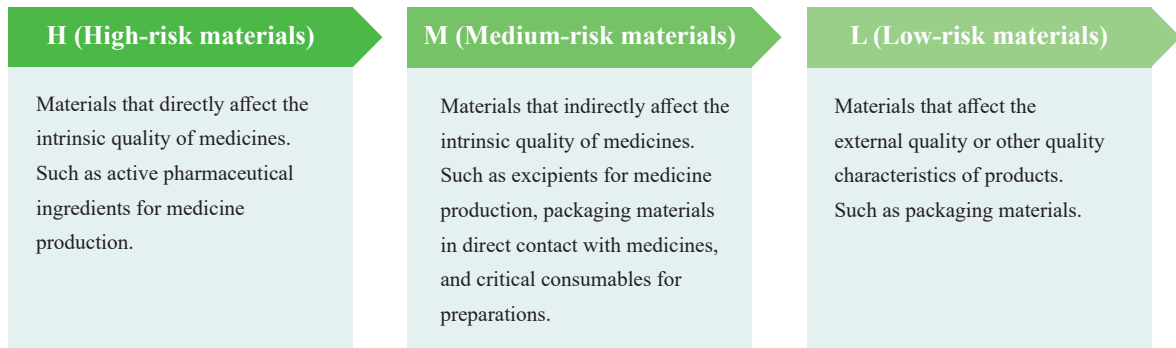


5.4 Supply Chain Quality Management

Supply chain quality management is one of the priorities of Joincare to guarantee product quality. We have formulated the Supplier Management System to standardise supplier on-boarding, management and evaluation, to further improve supply chain management. In the supplier on-boarding stage, based on the principle of fair bidding, quality first and dual sourcing procurement, comprehensive analysis and evaluation are conducted on suppliers. Their comprehensive performance in quality control ability, supply stability, and environmental and risk management ability is evaluated through on-site quality audits, regular written quality audits and questionnaire feedback. For new suppliers of raw materials and excipients, we request them to provide additional stability inspection reports, MSDS chemical safety technical specifications, ISO-related certifications and other professional qualification certificates and quality management system certifications, to ensure that the material quality meets our quality requirements for products. Suppliers included in the list of qualified suppliers shall sign the Procurement Contract and the Quality Assurance Agreement, which define their responsibilities of quality assurance in the supply process, and their commitment to a stable and safe supply of production materials.

In the stage of supplier management and evaluation, we implement hierarchical management on suppliers. According to supply risk, the existing suppliers are rated at three levels, namely H/M/L. The risk level of suppliers is initially determined according to the type of materials they supply. Thereafter, we comprehensively consider suppliers' product quality risk, the consumption of materials and the impact of materials on product quality or other factors every year, and re-evaluate their risk level based on their annual quality review reports.

Risk Classification Mechanism for the Materials of Suppliers of Joincare

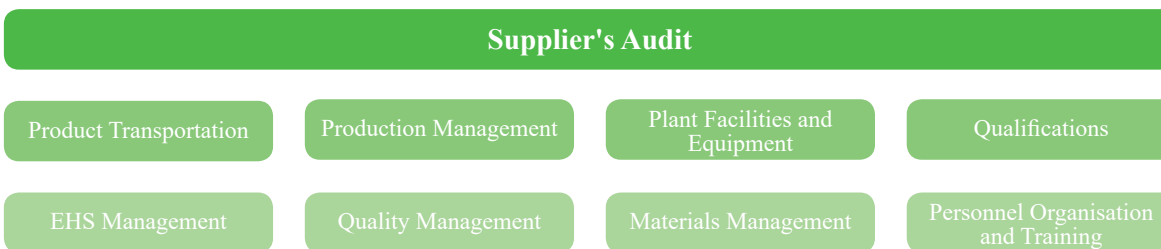


In addition, the Group has formulated relevant policies, such as the Supplier Quality Review Management, and on this basis, conducts regular scientific reviews on suppliers' qualifications, production sites, technologies, quality assurance systems, etc., to determine whether they are well-qualified for providing materials that meet our quality requirements. We further standardise the audit of suppliers and determine the audit frequency and form according to their risk classification. In case of deficiencies in production quality management and production material use of suppliers during the audit, we will inform them through quality feedback notice and require them to make rectifications and issue rectification reports to help improve the overall quality management of the supply chain. In 2022, we audited a total of 3 level H, 27 level M and 3 level L suppliers in accordance with the annual supplier audit plan. In addition to product quality and safety, we also pay continuous attention to the management of suppliers in EHS. During the on-site audits, we shared the EHS regulations and the industry trends with suppliers. We encouraged all of them to actively obtain ISO 14001, ISO 45001 and other management system certifications to reduce the EHS risks of the supply chain. As of the end of the reporting period, the Group and subsidiaries had 109 suppliers that obtained ISO 14001 certification for environmental management systems and 83 suppliers that obtained ISO 45001 certification for occupational health and safety management systems.

Table: Suppliers audit frequency and form of Joincare

Supplier classification	Audit frequency and form
H (High-risk materials)	One on-site audit every 2 years
M (Medium-risk materials)	One Written quality audit every 2 years
L (Low-risk materials)	One qualification information update every 3 years

Suppliers' Audit Dimensions of Joincare



Case



EHS audit conducted by Livzon Group on suppliers

Livzon Group, the holding subsidiaries of Joincare, has incorporated EHS audit on suppliers into the system-compliant audit plan. The audit covers environmental and safety indicators, such as energy conservation and emission reduction, compliance with pollutant discharge standards, compliance with solid waste collection and disposal regulations, and ISO system certification. Livzon Group expects to promote green and low-carbon development of the supply chain with the joint efforts.

To systematically cope with risks posing to supply chain stability, Joincare, taking into account its supply chain and businesses, has formulated comprehensive mitigation and emergency plans in response to the supply risks. In addition, we have prepared policies for alternative suppliers and adopted dual sourcing policy. We strive for the integrated production of “APIs-preparations vertical integration” to steadily improve our production capacity for major raw materials. At the same time, we have alternative suppliers for raw materials and excipients as well as key consumables to minimise the supply risks resulted from the material shortage of suppliers. In addition, we pay close attention to inventories in daily operation, and communicate and cooperate with suppliers to ensure sufficient materials for stable production.

Case



Active response to risks posing to supply chain stability at Joincare Haibin

To ensure stable production and product quality and safety, Joincare Haibin takes various measures to address supply risks. In addition, Joincare Haibin has formulated a plan for selecting new suppliers for major raw materials and excipients as well as packaging consumables in drug production. For some raw materials that cannot be produced in-house, such as terbutaline and salbutamol sulfate, Joincare Haibin promptly switch to alternative suppliers to ensure stable supply. For the excipients such as sodium chloride, hydrochloric acid, sulfuric acid, disodium edetate and Tween-80, Joincare Haibin has two suppliers to ensure material supplies. In addition, Joincare Haibin has several suppliers for packaging consumables.

For the key consumables from exclusive suppliers, such as liquid filter elements, Joincare Haibin actively seeks for domestic and overseas resources, in a bid to mitigate potential production risks resulted from the exclusive supply of key materials. So far, Joincare Haibin already has three suppliers for the filter elements.

Case



Jiaozuo Joincare ensures supply chain stability

To guard against risks posing to supply chain stability such as lack of products and supply shortage from cooperative suppliers, Jiaozuo Joincare actively find solutions to mitigate the supply risks in an all-round way. Following the market dynamics, Jiaozuo Joincare will increase inventories in case of tight supply and other abnormalities. To avoid the supply failure of suppliers, Jiaozuo Joincare continues to tap into cooperation opportunities with new suppliers in various regions to diversify supply channels. To address product shortages, Jiaozuo Joincare attempts to find alternatives to ensure stable supply.

We also pay attention to the quality capacity building of suppliers and carry out training for suppliers on an annual basis to help them improve product quality. In 2022, we provided a number of targeted training sessions for packaging suppliers. During the training, we, together with the business and quality departments, explained quality standards and requirements to suppliers. We also analysed existing packaging quality problems, thus providing guidance on how to use technology to make packaging scientifically optimised and environmentally friendly, and further guiding them to take improvement measures for better quality. Joincare actively assists suppliers in improving their management, and provides guidance on drug transportation and storage to minimise the damage to drug quality, and guarantee product quality and safety.

5.5 Intellectual Property Rights Protection

As part of the continuous efforts to better protect intellectual property rights, Joincare strictly abides by external laws and regulations such as the Patent Law of the People's Republic of China, the Guidelines for Patent Examination, and the Measures for the Implementation of Early Resolution Mechanisms for Drug Patent Disputes (for Trial Implementation). Joincare has formulated internal management documents such as the Policy on Emergency Plan for Intellectual Property and the Policy on Intellectual Property Education and Training to clarify the Group's emergency plan for patent infringement and the responsible department and training method of intellectual property training. All these policies aim to improve the management and operation of intellectual property, raise employees' awareness of intellectual property protection, and fully respect others' research and innovation achievements, so as to build an R&D innovation ecosystem featuring mutual benefit and mutual trust.

The Group continues to promote intellectual property protection, improve the intellectual property system, and accelerate the transformation of R&D achievements within the Group. In October 2022, we passed the review of the National Intellectual Property Demonstration Enterprise again, with the result of “excellence”, demonstrating that regulatory authorities recognise our work in independent technology R&D and intellectual property management. In the future, we will maintain a leading role in intellectual property management and explore and use emerging technologies to enhance intellectual property protection, helping stimulate innovation in the pharmaceutical industry.

Case



Training on font infringement and trademark use

In 2022, in order to improve the Group’s overall awareness of intellectual property protection, Joincare provided a professional knowledge explanation of font infringement and trademark use for employees, including the serious consequences of font infringement, the judgment method of commercial font use, the legal use of trademarks, and the transfer of use, so as to minimise the risk of infringement.

Joincare always focuses on protecting the intellectual property rights of respiratory medicine products by means of patents, trademarks and copyrights and technical secret protection, to better promote the health care strategy. As of the end of the reporting period, for well-known respiratory medicine products such as Tobramycin Inhalation Solution (健可妥®), Budesonide Suspension for Inhalation (雾舒®), Levosalbutamol Hydrochloride Nebuliser Solution (丽舒同®), Compound Ipratropium Bromide Solution for Inhalation (舒坦琳®), and Ipratropium Bromide Solution for Inhalation (丽雾安®), the Group has applied for 99 related patents, including 59 invention patents, 31 utility model patents and 9 appearance design patents. Meanwhile, 67 patents were granted, including 30 invention patents, 28 utility model patents and 9 appearance design patents.

Table: Joincare’s intellectual property patents by the end of the reporting period

Valid applied patents		Valid granted patents	
Total number of valid applied patents	1,084	Total number of valid granted patents	804
Total number of invention patents	705	Total number of invention patents	441

Table: Joincare’s registered trademarks as of the end of the reporting period

Trademark registration	
Number of registered trademarks	1,814
Number of domestic trademarks	1,600
Number of overseas trademarks	214

Moreover, Joincare values independent innovation and tends to reach overseas markets. In the future, we will promote our pharmaceutical products, especially reagents, in overseas markets, and play a part as far as possible in the Doha Declaration on the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement and Public Health. If some third-party invites us to provide our products for the least developed and low-income countries, Joincare will license our product patents on a proper and conditional basis.

5.6 Responsible Marketing

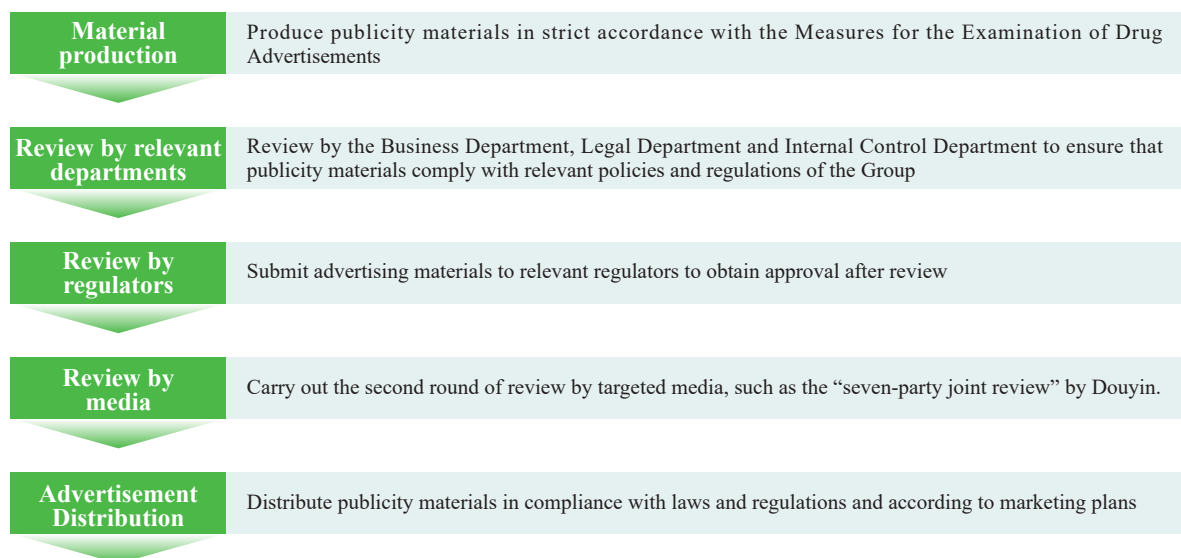
Joincare strictly abides by the Advertising Law of the People's Republic of China, the Law of the People's Republic of China Against Unfair Competition, the Personal Information Protection Law of the People's Republic of China, and the relevant laws and regulations of the places where the Group operates. We are committed to providing accurate product information in the process of publicity and marketing. We have formulated the Responsible Marketing Policy, which has been disclosed on the official website, to manage and standardise marketing campaigns carried out by all employees (including full-time, part-time and temporary employees) of the Group and its subsidiaries. In addition, Joincare has formulated the Code of Conduct of Joincare for Sales personnel and other internal policies to regulate the marketing behaviours of relevant personnel to ensure that all publicity and marketing activities are in compliance with laws and regulations.

The Code of Conduct of Joincare for Sales Personnel is summarised as follows:

- Strictly abide by national laws and regulations;
- Strictly comply with the relevant provisions of the Good Supply Practice;
- Be honest and trustworthy in business activities, and uphold fairness in competition. When conducting business activities, it is strictly prohibited to interfere with or affect the rational clinical use of drugs by exaggerating the efficacy of products, making false and misleading statements, concealing adverse drug reactions and other means;
- The interests of enterprises and others shall not be harmed in business activities; the Group's business secrets and customer privacy shall be protected;
- Illegal activities such as commercial bribery shall not be conducted for sales;
- Timely report adverse clinic reactions of drugs (if any) to the Group;
- Malicious transregional sales are not allowed to affect the order of the sales market.

In order to further implement the compliance management of marketing behaviour, Joincare has established a systematic approval process for marketing campaigns, with checks on the product information and design, production and execution of publicity programs, ensuring the legal compliance of all marketing activities in the process of brand promotion and building, in active collaboration with external regulators and media.

Compliance Review Process for Joincare's Marketing Campaigns



Case



Responsible marketing audit at Livzon Group

Joincare’s holding subsidiary Livzon Group has established a rigorous mechanism for responsible marketing audit. Under the mechanism, any form of marketing campaigns, approaches and materials are required to be reviewed and approved by authorised management personnel. In doing so, Livzon Group ensures the authenticity and compliance of the marketing campaigns, without any exaggeration, deception or false information. All advertising has been approved and registered as stipulated in accordance with national regulations prior to the publicity.

To supervise the compliance of marketing campaigns, Livzon Group’s Risk Management Headquarters carried out responsible marketing audit on businesses of its subsidiaries such as the implementation of responsible marketing policies, sales, and sales contract signing. In doing so, Livzon Group ensures that marketing campaigns are in compliance with relevant laws and regulations.

In addition, Joincare regularly provides responsible marketing training for all employees. We also deliver additional training for all marketing personnel at regular intervals, covering marketing rules and policies, product knowledge, negotiation and communication, laws and regulations, sales techniques, etc. Through online and offline channels, the Group ensures that employees understand and strictly abide by internal marketing and publicity policies, and avoids exaggeration, deception or false publicity, thereby providing consumers with genuine and useful product information. In 2022, all business divisions of Joincare actively carried out responsible marketing training, including 110 times by the healthcare product department and 328 times by the prescription medicine department, with participation by all (100%) marketing personnel.



Joincare’s Offline Responsible Marketing Training

06

Access to Healthcare

Acting in the interests of patients and focusing on safeguarding human life and health, Joincare carefully conceives the corporate vision of “Diligently make high-quality and innovative drugs”. We put great effort into the healthcare industry and firmly implement the dual-drive strategy of innovative medicines and high-barrier complex drug formulations, constantly consolidating our position as the leader of China's high-end inhalation medicine sector. As a practitioner of “Healthy China”, we endeavour to improve the availability and affordability of high-quality pharmaceutical products and services, popularise knowledge on chronic diseases by making full use of new media platforms, actively advocate for the rational use of medicines, and facilitate the improvement of human health by working with stakeholders.

6.1 Focusing on R&D and Innovation

Focusing on product R&D and innovation, the Group actively throws itself into the development of high-barrier complex drug formulations and innovative medicines. We continue to strengthen the construction of innovative technology platforms for high-barrier complex drug formulations, including inhalation administration, antibody, sustained-release microspheres, and complex injection. We focus on key treatment fields, including respiratory diseases, digestive system diseases, assisted reproduction, psychiatric disorders, and tumour immunity. At the same time, we continuously increase our investments in R&D and innovation, work with top domestic R&D teams for in-depth research and expand the R&D of other high-end formulations with market potential and new drug delivery devices, so as to further diversify the R&D pipeline and improve the product structure and business layout of the Group.

In addition, the Group actively explores the application of new technologies in the traditional pharmaceutical manufacturing industry. It has established long-term cooperative relations with well-known universities, scientific research institutions, and laboratories both domestically and abroad. Based on this, we create an enterprise technology innovation network with coordinated efforts of enterprises, universities, and research institutions. We now have three national R&D technology centres and several provincial and municipal innovation carriers; meanwhile, in terms of biosynthesis, eight R&D platforms have been established for synthetic biology, industrial microbial breeding, biochemical APIs, biocatalysis, biological transformation and amplification, product extraction, drug synthesis, and AI in pharma. To build a biosynthesis platform, we have established an operating system that facilitates genetic modification, simultaneous gene editing and high-fidelity multi-DNA splicing of various prokaryotic and eukaryotic microorganism. In addition, we have developed a complete set of processes for whole-genome variation analysis and prediction of gene clusters of key secondary metabolites. With these efforts, we have made targeted genome modification and fusion possible, enhancing our capabilities in gene capture and manipulation of large DNA segments. We have also improved the technologies such as high-throughput DNA splicing and large-scale targeted genetic screening. In addition, we have expanded the technical system that restructures the metabolic network with predicted molecular elements to breed various candidate strains with the upgraded genetic modification. In the future, we will continue to enhance technological innovation's ability to drive the pharmaceutical industry's high-quality development.

In 2022, Joincare was awarded High & New Technological Enterprise Certification, fully reflecting that official authorities recognised and supported the Group's performance in intellectual property rights, scientific and technological achievements, R&D organisation management, and healthy growth.

Case



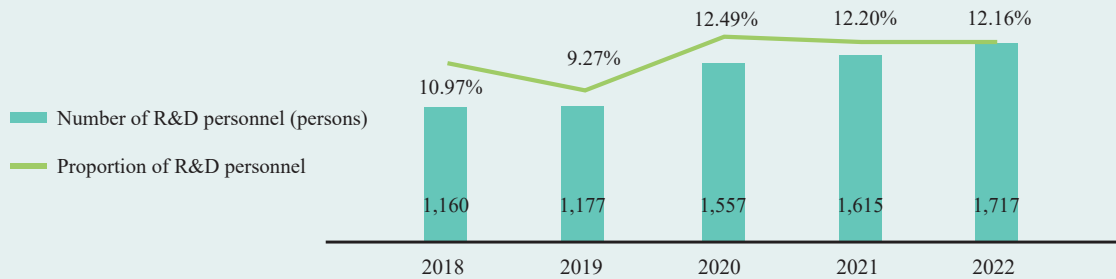
Working with quantum computing + AI together with Tencent Quantum Lab in promoting pharmaceutical R&D

Based on its extensive R&D experience in synthetic biology and AI in pharma, Joincare Biopharmaceutical Research Institute signed a Strategic Cooperation Agreement with Tencent Quantum Lab (腾讯量子实验室) to drive the application of quantum computing + AI in research fields of synthetic microbial biology and relevant drugs.

This year, Joincare Biopharmaceutical Research Institute and Tencent Quantum Lab collaborated on such projects as "Research on AI-Enabled Microbial Synthetic Biology" and "Establishment and Optimisation of Type Strain Metabolic Network Model Based on Machine Learning". These efforts aimed to transform and optimise base strains by combining experiments and algorithms to improve the output of natural products such as aromatic amino acids and downstream derivatives. Moreover, in collaboration with the China Pharmaceutical University and the Technical University of Denmark, a computer-assisted tool library for protein engineering and computational biology has been built by Joincare Biopharmaceutical Research Institute. The tool library covers more than 10 cutting-edge scientific research tools worldwide under 5 categories, including the excavation of basic molecular elements, prediction of protein structure and function, enzyme engineering and rational design of protein molecules, optimisation of microbial metabolic pathways, and prediction of the combination of small and large molecular targets. The tool library helps Joincare Biopharmaceutical Research Institute build its independent IBT (Informatics + Biotechnology) R&D capability. It also effectively promotes its research and innovation in the independent development of machine learning algorithms to support synthetic biology.

By the end of the reporting period, the Group's R&D team had been growing continuously, with 1,717 R&D personnel. We also have continuously increased investment in R&D. This year, the total R&D expenditures amounted to RMB 1,758.66 million, accounting for 10.26% of the total audited revenues of the year.

Number and Proportion of R&D Personnel of Joincare in 2018-2022



Joincare's R&D Revenue and Proportion of Its Total Revenues in 2018-2022

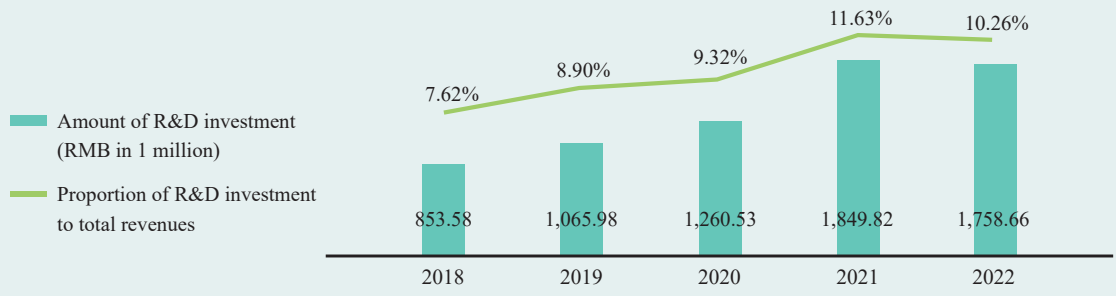


Table: Major R&D/registration progress of Joincare in 2022

Date	Major R&D/Registration Progress
February 2022	Clinical Trial Approval Notice obtained for LZ001
April 2022	Approval for drug registration obtained for Levosalbutamol Hydrochloride Nebuliser Solution (3ml:1.25mg)
April 2022	Clinical Trial Notice obtained for Salmeterol Xinafoate and Fluticasone Propionate Powder for Inhalation
April 2022	Medical Device Registration Certificate obtained for Rapid Test for 2019-nCoV Antigen (Lateral Flow)
June 2022	Approval for drug registration obtained for Terbutaline Hemisulfate Aerosol Inhalation Solution
September 2022	Clinical Trial Notice obtained for XYP-001
September 2022	Heterologous booster vaccination for emergency use allowed for Recombinant SARS-CoV-2 Fusion Protein Vaccine
September 2022	Approval for drug registration obtained for Ilaprazole Sodium for Injection and Ilaprazole Enteric-Coated Tablets in Indonesia
October 2022	Approval for drug registration obtained for Acetylcysteine Solution for Inhalation
October 2022	Approval for drug registration obtained for Tobramycin Inhalation Solution
November 2022	Class II Medical Device Registration Certificate obtained for Nebuliser Air ProII
November 2022	Clinical Trial Approval Notice obtained for Ilaprazole Enteric-Coated Tablets
December 2022	Class II Medical Device Registration Certificate obtained for Nebuliser Air Force
December 2022	Class I Medical Device Registration completed for Powder Inhaler
December 2022	Semaglutide Injection launched the first phase III clinical trial centre

6.1.1 Committed to Respiratory Health

Chronic respiratory diseases are a major category of diseases represented by chronic obstructive pulmonary diseases (COPD), asthma, etc., featuring a high prevalence rate, high disability rate, high mortality rate, and high disease burden. As the best and most effective therapy methods for chronic respiratory diseases, inhalation medicine products can quickly and directly reach the lungs to play their therapeutic effect, reducing drug dose and improving drug efficacy. However, foreign companies have long monopolised the market due to the high barriers to R&D and production. China attaches great importance to the prevention and treatment of chronic respiratory diseases, regarding them as one of the main tasks of the Healthy China Initiative 2019-2030, and highly encourages and supports the R&D of inhalation medicine products. In response to the national appeal, Joincare continues to improve the market presence of respiratory disease medicines, and strengthen the R&D of inhalation medicine products through extensive industrial cooperation, to support domestic respiratory disease treatment.

Adhering to the original aspiration of “joining us in respiratory care”, the Group is committed to becoming “a leader of the inhalation medicine sector in China”. We have established R&D platforms for inhalation medicine products and formed a clear and integrated and diversified R&D pipeline, in cooperation with Dr. Jin Fang, the leader and pioneer in the R&D of inhalation medicine products in China, and her R&D team, as well as the Guangzhou Institute of Respiratory Health led by Academician Zhong Nanshan. After years of steady development, we have become one of the leaders in the R&D of high-end inhalation medicine products in China. Our existing products and products under R&D cover all types of inhalation medicines for COPD and asthma, many of which are the first generic drugs approved in China, providing more effective and safe medicine options for patients with COPD and asthma.

The Group adopts a differentiated competition strategy with a balanced pipeline of drug candidates and complete coverage of dosage forms. This year saw achievements in the Group's pre-planned inhalation medicine products, among which Tobramycin Inhalation Solution, Levosalbutamol Hydrochloride Nebuliser Solution (3ml:1.25mg), Terbutaline Hemisulfate Aerosol Inhalation Solution and Acetylcysteine Solution for Inhalation were approved for marketing. Furthermore, the Group made great headway in the R&D of several Class II modified innovative medicine products and generic drugs. In terms of smart medicine administration devices, two nebulisers of the Group have obtained the Class II Medical Device Registration Certificate, and one inhalation administration device has completed the Class I Medical Device Registration. The diversified product matrix reveals the Group's increasingly prominent competitive advantage.

Case



Tobramycin Inhalation Solution of Joincare was approved for launching

Bronchiectasis is a disease that occurs when the tubes that carry air in and out of your lungs (air tube) and their surrounding tissues get inflamed chronically, causing the bronchia to be widened and transformed. It's a common clinical disease, but it's easy to be ignored by patients. For a long time, the Bronchiectasis treatment in the stable phase has stagnated due to China's lack of inhaled antibiotics, imposing a heavy burden on patients, the medical system, and society. As the first inhaled antibiotic targeting bronchiectasis in China, Tobramycin Inhalation Solution (“健可妥®”), a modified innovative medicine developed independently by Joincare, was approved for marketing in October 2022. It is a key breakthrough in respiratory diseases, breaking the dilemma that no atomised antibiotics are available for patients with bronchiectasis in China, and making inhalation therapy accessible to patients in China with bronchiectasis associated with pseudomonas aeruginosa infection.

In addition, the confirmatory phase III clinical trial of Tobramycin Inhalation Solution is the first clinical research on bronchiectasis in China that is featured by randomness, double-blind trial, multi-center research, and large sample analysis. Led by Academician Zhong Nanshan, this clinical trial independently pioneered the use of the world's first dual-clinical efficacy study endpoints: bacterial load change and quality of life (QOL) score of patients with bronchiectasis. It achieved the significant double-positive therapeutic efficacy with high safety for the first time in the world, providing solid and reliable data for the successful launch of the drugs.



Tobramycin Inhalation Solution

Throughout 2022, our R&D progress in inhalation medicine products was shown as follows:

Table: Joincare's R&D progress in inhalation medicine products in 2022

Medicine Form	Product Name	Registration Category	Pre-clinical	Clinical Trial/BE Trial			NDA/ANDA
				Phase I	Phase II	Phase III/BE	
Solution for Inhalation	Formoterol Fumarate Solution for Inhalation	Chemical drugs Class 3					»»»»»»
	Fluticasone Propionate Nebuliser Suspension	Chemical drugs Class 4					»»»»»»
	Levosulbutamol Hydrochloride and Ipratropium Bromide Solution for Inhalation	Chemical drugs Class 2.3		»»»»»»			
	XYP-001	Chemical drugs Class 2.2 and 2.4		»»»»»»			
Powder for Inhalation	Indacaterol Maleate Powder for Inhalation	Chemical drugs Class 4					»»»»»»
	Salmeterol Xinafoate and Fluticasone Propionate Powder for Inhalation	Chemical drugs Class 4				»»»»»»	
	Aclidinium Bromide Powder for Inhalation	Chemical drugs Class 2.2		»»»»»»			
Inhalation Aerosol	Mometasone Furoate and Formoterol Fumarate Dihydrate Inhalation Aerosol	Chemical drugs Class 3				»»»»»»	
	Formoterol Fumarate Inhalation Aerosol	Chemical drugs Class 2.2		»»»»»»			

6.1.2 R&D Efforts in Bio-Pharma

Over the years, LivzonBio, a subsidiary of Joincare, has kept exploring biomedicine. It has built well-developed R&D and production technology platforms for antibody medicines, fusion protein medicines, cell therapy medicines, vaccines etc., and focused on the development of tumour, reproduction, and autoimmunity-related products. LivzonBio has carried out and promoted a number of R&D projects for monoclonal antibodies, recombinant proteins, ADC, CAR-T, and innovative vaccines.

We speed up the approval of new products through independent R&D, external introduction, strategic cooperation, and other channels. Relying on the well-developed R&D and industrialisation conditions of protein drugs and new vaccines, we continuously enrich the pipelines of products under research and improve the commercialisation of products. In February 2022, the final report from the Phase III clinical trial for the heterologous booster vaccination with Recombinant SARS-CoV-2 Fusion Protein Vaccine (“丽康®V-01”) jointly developed by LivzonBio and the Institute of Biophysics, Chinese Academy of Sciences was completed, with the conditional new drug application (NDA) submitted. In September 2022, this product was approved for emergency use. Test data showed that 丽康®V-01, as a heterologous booster, can produce good protection against Omicron. The protection degree was up to 61.35% for populations inoculated with two doses of inactivated vaccine and 61.19% for high-risk populations (people over 60 years old or with underlying diseases). In addition, the literature data shows that 丽康®V-01 is more secure than mRNA and adenovirus vaccine, and it can be transported and stored at 2-8°C. Its continuous and stable supply relieves the urgent demand for the COVID-19 vaccine and provides a better solution for heterologous booster vaccination in China.

In January 2023, Tocilizumab Injection (“Atvtia®”), the key product for COVID-19 treatment of LivzonBio, was approved for launching. Tocilizumab is a recombinant humanised anti-IL-6 receptor monoclonal antibody, which can specifically block the binding of IL-6 and IL-6 receptors, thus inhibiting inflammatory reactions caused by IL-6 receptor, including pneumocyte cytokine storm caused by COVID-19 infection. At present, Tocilizumab Injection has been included in Diagnosis and Treatment Scheme for Novel Coronavirus Infection (10th Edition for Trial) and Diagnosis and Treatment Scheme for Severe Cases of Novel Coronavirus Infection (4th Edition for Trial), which is a good treatment for patients who have symptoms such as “whited-out lungs” infected with the COVID-19.

Table: LivzonBio’s R&D progress of key products under research

Field	Medicine Code (Full name)	Pre-clinical	Clinical Trial			NDA/ ANDA
			Phase I	Phase II	Phase III	
Vaccine	V-01 (Recombinant SARS-CoV-2 Fusion Protein Vaccine (CHO-cell))					»»»»»»
Anti-tumour	LZM009 (Recombinant Humanised Anti-PD-1 mAb)			»»»»»»		
	A-01 (Recombinant Tumour Enzyme Specific Interferon α -2b Fc Fusion)		»»»»»»			
Assisted Reproduction	B-01 (Recombinant Human Follicle Stimulating Hormone)		»»»»»»			
	LZM003 (Recombinant Human Choriogonadotropin alfa for Injection)					»»»»»»
Immune Disease	LZM008 (Tocilizumab Injection)					»»»»»»
	LZM012 (Recombinant Anti-human IL-17A/F Humanized Monoclonal Antibody Injection)			»»»»»»		

6.1.3 Development of Sustained-Release Microspheres for Injection

Microspheres are microspherical polymers prepared with high molecular materials with a particle size of 1 - 250 μ m and containing one or more drugs. Microsphere formulations are superior to traditional injection formulations in long-acting and high bioavailability. They have specific tropism to target organs and can greatly improve drug convenience and compliance, with outstanding clinical advantages. Livzon Microsphere, a subsidiary of Joincare, focuses on the R&D of anti-tumour, endocrine-regulating, and antipsychotic microsphere formulations, which are advantaged for their long-acting and sustained-release mechanism. The company has an overall arrangement in long-acting eye medication and an in-depth study of long-acting formulation technology with independent intellectual property rights (IIPR). By the end of the reporting period, 6 ongoing projects had been put in the pipeline on the sustained-release microsphere R&D platform. Among them, 1 medicine was under review for listed approval and registration, 3 medicines were at phase I clinical trials, 2 medicines were at BE (pilot) trial, and 1 medicine was in preparation for the phase I clinical trials.

Table: Livzon Microsphere’s R&D progress of key drug candidates

Project Name	Indication	Pre-clinical	Clinical Trial/BE Trial			NDA/ ANDA
			Phase I	Phase II	Phase III/BE	
Leuprorelin Acetate Microspheres for Injection (1-month sustained release)	Prostate cancer, sexual prematurity, endometriosis (stages I to IV), female infertility, pretreatment of uterine fibroids before surgery					»»»»»»
Triptorelin Pamoate Microspheres for Injection (3-month sustained release)	Treatment of locally advanced or metastatic prostate cancer, endometriosis (stages I to IV), central-precocious-puberty		»»»»»»			
Octreotide Acetate Microspheres for Injection (1-month sustained release)	Acromegaly, gastrointestinal pancreatic endocrine tumour				»»»»»»	
Leuprorelin Acetate Microspheres for Injection (3-month sustained release)	Prostate cancer, premenopausal breast cancer				»»»»»»	
Alarelin Acetate Microspheres for Injection (1-month sustained release)	Prostate cancer		»»»»»»			
Aripiprazole Microspheres for Injection (1-month sustained release)	Schizophrenia, bipolar disorder		»»»»»»			

6.2 Paying Attention to Rare Diseases Treatment

Rare diseases, also known as “orphan diseases”, are featured by unknown causes and extremely low incidence rates. High treatment costs for rare diseases result from their low market demand, difficulties in R&D and lack of experience in clinical medication, and even there is high cost and no medicine for some rare diseases. Under the guidance of relevant policies such as the “Healthy China 2030” Planning Outline and the Guidelines for Diagnosis and Treatment of Rare Diseases, we, based on our own scientific platform and capabilities, undertake corporate social responsibility actively by continuously investing in research on rare diseases, and focusing on improving the current situation of diagnosis and treatment of rare diseases, thus making contributions to building a Healthy China.

Idiopathic Pulmonary Fibrosis

Idiopathic Pulmonary Fibrosis (“IPF”) is a cryptogenic, chronic, progressive, and interstitial pneumonia. This disease usually affects middle-aged and aged people and has cardinal symptoms, including progressively increased dyspnea with restrictive ventilation dysfunction and ventilation dysfunction. Besides, it is featured by rapid progress, poor prognosis and no proven effective treatment to date. It’s proved that traditional hormone therapy or anticoagulant therapy is unable to alleviate the disease progression of IPF, and it has strong side effects or the risk of aggravating complications. Therefore, it is not recommended for the treatment of IPF. Due to the limitations of existing drugs, Joincare developed the modified new drug XYP-001 in 2022, which is a new mechanism/target drug in IPF indication development area. The Company successfully obtained the Clinical Trial Approval Notice issued by the National Medical Products Administration in September of the same year. Currently, the phase I clinical study of XYP-001 has been initiated. If it is launched, it will be a new and more secure drug alternative for IPF patients.

Malignant Hyperthermia

Malignant Hyperthermia (“MH”), a rare clinical hereditary disease that can cause perioperative death due to conventional anaesthesia, has an extremely low incidence rate and an extremely high mortality rate. Dantrolene Sodium for Injection is the only specific medicine for the treatment of the disease. Due to the high challenge in R&D and low-profit margin, no enterprise in China had been engaged in R&D and production of the drug for a long time. Joincare’s holding subsidiary Livzon Group began to plan the R&D of the medicine in the early days. After over a decade of arduous exploration, it obtained the medicine registration certificate in October 2020, and thus became the first enterprise in China to successfully produce generic Dantrolene Sodium for Injection, bringing good news to the vast number of MH patients and anaesthetists in China. In the future, we will further appeal to hospitals with clinical needs to stock Dantrolene Sodium for Injection and include it in the essential drugs for clinical rescue to save the lives of MH patients in time.

Acromegaly

Acromegaly is an endocrine and metabolic disease caused by hypersomatotropism of the adenohypophysis. The Octreotide Acetate Microspheres for treatment of the disease are featured by the technical difficulty of mass production, the high R&D cost, the long R&D cycle, and the high import price, financially burdening patients and the national medical insurance system. Based on the urgent need for localisation, Joincare’s holding subsidiary Livzon Group has initiated the imitation of Octreotide Acetate Microspheres for Injection and obtained approval for clinical trials in September 2020, which allowed bioequivalence (BE) studies to be conducted on healthy people in contrast with the brand-name medicines. By the end of the reporting period, Joincare’s holding subsidiary Livzon Group completed the BE pretest for Octreotide Acetate Microspheres for Injection, expecting to provide generic drugs with guaranteed quality and efficacy as soon as possible to relieve the burden of patients with acromegaly.

Thymic tumour

A thymic tumour is a relatively rare type of thoracic neoplasm. Pathological classification of the World Health Organisation classifies it as a thymic epithelial tumour, including thymoma and thymic carcinoma, with an incidence of 1.3-3.2 per million. Thymic Carcinoma is a rare Epithelial Malignancy, which is more aggressive than thymoma. Most patients with thymic carcinoma are exposed to external invasion or metastasis at the first discovery. The incidence and survival time of patients with thymic carcinoma is significantly lower than those with thymoma. At present, thymic carcinoma still lacks effective targeted therapy drugs. Evidence-based medical evidence is limited, and the predictive markers and prognosis are uncertain. Recombinant Humanised Anti-PD-1 mAb (“LZM009”), a product under research by the Group’s subsidiary LivzonBio can inhibit or activate receptors by targeting the protein to enhance immune response and improve cancer prognosis. By the end of the reporting period, LZM009 had completed the phase Ib/II clinical trials for the selected subjects, reaching the preset efficacy, with the effectiveness and safety being observed.

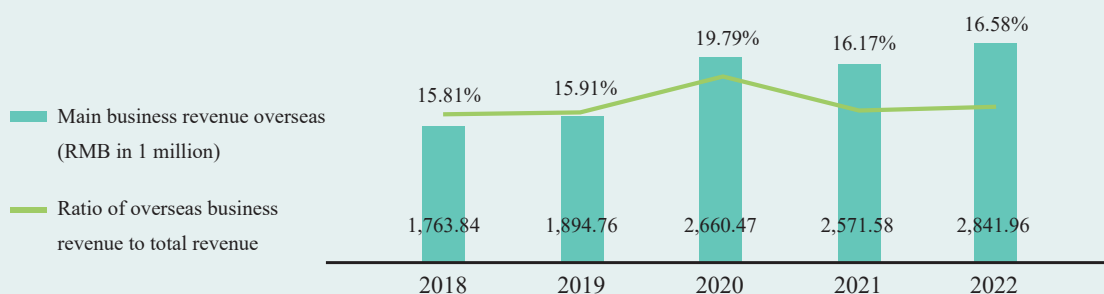
6.3 Improving the Availability of Medicines

Adhering to the mission of “For the health, For the future”, the Group focuses on the healthcare industry and has been endeavouring to improve the availability and affordability of medicines and advocate for the rational use of drugs. Moreover, the Group actively fulfils its obligations & duties in the popularity of medical products domestically and abroad. The Social Responsibility Committee of the Board of Directors of Joincare has considered inclusive healthcare issues during its decision-making. It is responsible for regularly reviewing the development of the Group's strategies & policies and performance on inclusive health care, supervising and reporting the progress to the Board of Directors, and urging the Group to practice inclusive health care.

6.3.1 Improving Products' Availability

To improve our products' availability and make more safe and effective products available to global patients, Joincare expands the production and marketing of vaccines, patent medicines, generics, APIs, and IVD (In-Vitro Diagnostics) reagents and devices overseas mainly via direct operation and authorising local distributors. So far, our products have been approved for registration in major pharmaceutical markets and emerging markets in multiple countries and areas across Asia, Europe, North America and Africa. During 2022, our revenues generated from overseas businesses reached RMB2,841.96 million, representing a 5-year compound growth rate of 12.67%.

Joincare's Main Business Revenue Overseas and Proportion of Its Total Revenues in 2018-2022



Case



Process of Joincare's Internationalisation

Internationalisation is the long-term strategy of Joincare's development. In 2022, we launched the Global Depository Receipt (GDR) in Switzerland successfully, which is a major milestone in the internationalisation process of the Group. The speed of internationalisation of the Group will be further increased by launching the GDR. Also, we proceed with the work of admittance, product registration, and promotion for products such as inhalation formulation, assisted reproduction, gastroenterology, and anti-viral overseas. Ilaprazole Sodium for Injection and Ilaprazole Enteric-Coated Tablets, which are our major products, are granted for sale in the Indonesian market. We are conducting registration-related work for Recombinant Human Choriogonadotropin alfa for Injection; registration materials were submitted to Indonesia, Pakistan, five countries in Central and South America and two countries in Central Asia; the product is granted for sale in Tajikistan. Products such as Budesonide Suspension for Inhalation and Compound Ipratropium Bromide Solution for Inhalation are being registered in countries like the Philippines. Budesonide Suspension for Inhalation is registered in Macao, and the first overseas sale is completed.

Meanwhile, we promote international cooperation and external licensing and authorisation of innovative products and pipelines, and we conduct discussions on cooperation with international multi-parties. Among them, we are discussing external authorisation of the modified new drugs Tobramycin Inhalation Solution with customers in European and Southeast Asia.

Case



LivzonBio Atvtia® supports the treatment of severe COVID-19-infected patients overseas

During the pandemic overseas, LivzonBio obtained the Special Access Scheme Drug Importation Approval (SAS approval) issued by the Indonesian Food and Drug Administration (BPOM) for Atvtia® in July 2021, and the Drug Product for Emergency Use (DEU approval) issued by the Philippine Food and Drug Administration (FDA) in October of the same year. This greatly supports the treatment of severe COVID-19-infected patients in some Southeast Asian countries.

6.3.2 Improving Medical Affordability

To improve the affordability of medicines, the Group actively responds to admission to the medical insurance list, making efforts to provide high-quality medicines to more patients at affordable prices. In 2022, in the new version of the National Medicine List for Basic Medical Insurance, Work Injury Insurance and Maternity Insurance (“National Reimbursement Drugs List” (NRDL)) published by the National Healthcare Security Administration, Joicare had 202 products included, among which 95 were Class A and 107 were Class B. In addition, Joicare has been keeping track of the national centralised drug procurement, striving to be included in the national procurement list. In July 2022, according to the Announcement on the Results of National Centralised Drug Procurement issued by China National Joint Drug Procurement Office, two products of Joicare won the bid for the seventh batch of national procurement, providing fairly-priced and high-quality medicines to patients in the future.

Key Products in National Reimbursement Drugs List

Levosabutamol Hydrochloride Nebuliser Solution (“丽舒同®”): As a key product of Joicare, it was a typical complex formulation and entered the Announcement on Application for Registration of Drugs to be Included in the Priority Review Procedure (29th Batch) because of the advantages for priority review, such as “Major Special Project” and “Children's Drugs” in 2018. In 2019, it was approved for marketing as the first new class-III inhalation preparation in China and included in the NRDL in 2020. It can reduce the risk of adverse reactions such as tachycardia and hypokalemia compared with salbutamol, a commonly used first aid for asthma and COPD, and can greatly improve patients' pulmonary function, thereby lowering the risks of them having to be hospitalised and re-hospitalised, or shortening hospital stays. Therefore, this medicine is a safe and useful choice for patients.

Ilaprazole Sodium for Injection (“壹丽安®”): 壹丽安®, a patented new drug of Joicare's holding subsidiary Livzon Pharmaceutical Group, was incorporated into the NRDL in 2019. This year, 壹丽安® was once again included in the NRDL as a drug used for patients with peptic ulcer bleeding, and its medical insurance payout was reduced from RMB 156/piece to RMB 71/piece, saving money for patients.

Products Selected in the 7th Batch of Volume-based Procurement

Terbutaline Hemisulfate Aerosol Inhalation Solution (2ml: 5mg) (“特瑞通®”): It is the fifth inhalation formulation of Joicare approved for marketing, which is used to relieve bronchospasm complicated by bronchial asthma, chronic bronchitis, emphysema and other lung diseases. It can be used by both adults and children. Terbutaline takes effect within minutes after being atomised and inhaled and lasts for 4 to 6 hours, with the advantages of quick effect, good efficacy and low risk of adverse reactions.

Meropenem for Injection (“倍能®”): It is a key product of Haibin Pharma under Joicare and has passed the quality and efficacy consistency evaluation of generic drug in 2020, making it the first meropenem for injection in China to pass the consistency evaluation. It can be used by adults and children infected by single or multiple meropenem-sensitive bacteria. It can be used alone or with other antimicrobial formulations to treat multiple infections.

In terms of product pricing, when entering into overseas markets, Joincare comprehensively considers the local economy, healthcare level, and price benchmarking to offer equitable pricing in line with the current regional development, avoiding an increase in the financial burden of patients. After an adequate assessment of local per capita income and analysis of local patients' affordability, differential-tiered pricing strategies were implemented for different markets. Joincare also positively goes for the bidding of local governments during product promotion in developing countries overseas so that affordable medicines and services would be offered locally. By the end of the reporting period, the Group and its subsidiaries have adopted equitable pricing policies in selling of 25 products in South Asia, Southeastern Asia, South America and Africa to match the local income level.

Taking into account the affordability, Joincare's holding subsidiary Livzon Group also adopts equitable pricing policies at home and abroad, in a bid to promote transparent pricing in both developed and emerging markets.

Table: Livzon Group's pricing policies and implementation

Business	Pricing policies	Pricing
APIs	<ul style="list-style-type: none"> Considering higher drug costs covered by patients in emerging markets/developing countries, Livzon Group provides more favourable prices in alignment with the local living and medical levels. To reduce the drug costs in emerging markets/developing countries, Livzon Group supplies high-quality and affordable APIs. Livzon Group also upholds equitable pricing at home. Livzon Group signs an annual supply agreement with domestic strategic partners, and provides concessions based on the purchase volume. Despite the rise of production and logistics costs due to the COVID-19 pandemic, Livzon Group basically maintains the original selling prices. 	<ul style="list-style-type: none"> Through commercial cooperation with over 50 customers in India, Livzon Group supplies 19 APIs and intermediates. The pricing for intermediates is about 5%-10% lower than that in developed countries, and the pricing for APIs is about 15%-40% lower than that in developed countries. Some high-end antibiotics (such as Vancomycin Hydrochloride, Teicoplanin and Dattomycin) are in great demand in emerging markets and developing countries. The average selling price for such products in developing countries such as India, Argentina, Pakistan and Thailand is about 30%-40% lower than that in developed countries. The average selling price of some veterinary drugs (such as Doramectin and Moxidectin) in major South American countries (such as Colombia, Brazil, Uruguay and Argentina) and some Asian countries (such as Pakistan and Vietnam) is about 15%-20% lower than that in developed countries.
Formulations	<ul style="list-style-type: none"> By supplying chemical generic drugs or biosimilar drugs, Livzon Group provides formulations with lower prices and similar efficacy for the Asian, African and Latin American markets. In emerging markets/developing countries, Livzon Group adopts a suitable pricing structure to formulate reasonable price based on local development level. In underdeveloped and low-income countries, Livzon Group exempts licensing fees. 	<ul style="list-style-type: none"> For Recombinant Human Choriogonadotropin alfa for Injection, Livzon Group waives licensing fees for its partners in 3 countries in West Africa, South Asia and Southeast Asia. For Ilaprazole Sodium for Injection, a patented new drug, Livzon Group waives licensing fees for its partners in 2 countries in Southeast Asia. For Recombinant Humanised Anti-human IL-6R mAb (Tocilizumab Injection), Livzon Group waives licensing fees for its partners in 3 countries in Southeast Asia and Eurasia. In addition, Livzon Group keeps promoting the EUA (emergency use authorisation) registration of the drug to safeguard the supply for patients with severe COVID-19 infection.
Reagents	<ul style="list-style-type: none"> By probing the final selling price of reagents, Livzon Group prohibits distributors by relying on franchise to limits their mark-up on the final selling price. In underdeveloped and low-income countries, Livzon Group provides more favourable prices. 	<ul style="list-style-type: none"> For COVID-19 antigen detection reagents, customers in the Asia-Pacific region are exempted from all fees for registration and certification. Livzon Group approaches multiple transport service providers for the optimum freight quotation, in a bid to provide customers with cost-effective delivery.

6.3.3 Improving Patient Outcomes

Popularising Knowledge of Chronic Disease

Respiratory disease is China's third most common chronic disease after cardiovascular disease and diabetes, with more than 160 million patients. Recently, the incidence of asthma, chronic obstructive pulmonary disease (COPD) and other respiratory diseases in China have kept rising. According to the statistics, China has nearly 45.7 million adult and 15.0 million childhood patients with asthma and 100 million patients with COPD. However, the awareness rate of COPD is way below the target set by the Healthy China initiative 2019-2030. To increase public awareness of chronic respiratory diseases, with measures such as publishing academic papers, supporting academic research, holding and participating in offline academic promotion activities, and organising online live-broadcasting via new media, Joincare endeavours in many ways to educate the public about asthma, COPD and other chronic respiratory diseases and encourages people potentially suffering from these diseases to take regular pulmonary function tests, to help prevent and treat chronic respiratory diseases.

Case



“Respiratory Experts’ Views” public welfare activities

Joincare focuses on respiratory diseases. We build a popular science new media platform matrix called “Respiratory Experts’ Views”. Through new media channels such as WeChat official account, Douyin, and Weibo, we promote knowledge on chronic respiratory disease and give treatment support.

- During the “World Asthma Day” activity in 2022, the “Respiratory Experts’ Views” platform initiated the activity themed “A small red envelope for you”. It simultaneously launched the live broadcasting of asthma knowledge for a week. During the activity, respiratory experts from 116 domestic hospitals were specially invited to spread the knowledge of asthma prevention and treatment to the public, jointly protecting respiratory health.
- During the “World COPD Day” activity in 2022, the COPD activity themed “Identifying potential patients, 1/14 of the total” was initiated to invite the public to participate in the vital capacity self-test game “One Breath Challenge”. Moreover, the “2022 Live-broadcasting Week of COPD Knowledge” activity was held together with chief respiratory physicians from many grade-A tertiary hospitals, calling on the public to keep a healthy lung and promote early prevention and effective intervention for better treatment effect.



Publicity Pictures of “Respiratory Experts’ Views”

Eliminating the Indiscrimination Use of Antibiotics

The Group holds that antibiotic resistance has become a global public health risk, threatening human health. In strict accordance with the Management Policy for Clinical Use of Antimicrobial Medicines, Joincare greatly emphasises the clinical use of antibiotics and strengthens the management of its anti-infection product portfolio, including Meropenem for Injection, Voriconazole for Injection and Cefodizime Sodium for Injection. Based on the classification of antibiotics for clinical use, we actively cooperate with medical institutions to handle antibiotic abuse, enforce the principles of “non-limited use”, “limited use”, and “special use”, and promote the management of physicians' prescription rights and control of medicine-resistance bacteria. Training lessons and lectures on optimising medicine-resistance bacteria treatment schemes are given to improve the clinical efficacy of antibiotics and effectively prevent misuse.

Joincare's holding subsidiary Livzon Pharmaceutical Group keeps on conducting R&D to address antibiotic resistance, including drug resistance of Gram-Negative Bacteria and Fungi and works with stakeholders to develop solutions to antibiotic resistance. Joincare also takes an active part in a number of academic conferences and has in-depth exchanges with clinical experts in infection, respiratory, blood, ICU, organ transplantation, skin, obstetrics, and gynaecology and scholars engaged in basic research of microbiology. Through these efforts, we aim to promote development and innovation in the field of medicine to ensure that all people can live a healthy life.

Case



Medicine-resistance risk control for Tobramycin Inhalation Solution

Bronchiectasis, one of common chronic respiratory diseases in China, can be aggravated by pseudomonas aeruginosa. The frequent and acute attack of bronchiectasis due to the bacterium will increase the risk of hospitalisation. Studies have shown that pseudomonas aeruginosa is generally resistant to existing antibiotics. Though the bacterium is less resistant to Tobramycin, the systemic administration will exert greater side effects. Compared with the systemic administration, inhaled antibiotics, due to rapid topical aggregation, can avoid the first-pass effect, and reduce systemic adverse reactions and the medicine-resistance risk resulted from prolonged antibiotics therapy. During the R&D of Tobramycin Inhalation Solution, Joincare carried out the first phase III clinical study on the treatment of bronchiectasis accompanied with pseudomonas aeruginosa infection in China. Moreover, we are the first in the world to set the dual study endpoint of bacterial load and patient life quality, in which major study endpoint received double positive and significant curative effect summary. In addition to the obvious clinical efficacy, the blood concentration following nebulised inhalation of Tobramycin was at an absolutely safe level without ototoxicity, nephrotoxicity, or increasing medicine-resistance risk. The successful marketing of the product has provided a better option for China's patients with bronchiectasis.

Case**Livzon Group's study on tackling antimicrobial drug resistance****Study on Drug Resistance of Gram-Negative Bacteria (GNB)**

At present, GNB is highly resistant to antibiotics. According to the study, all top five clinical strain infections in China are GNB infections. Polymyxin, one of the most important drugs in the treatment of multidrug-resistant (MDR) GNB infections, is effective against various GNB including Escherichia coli thanks to its low resistance rate and strong antibacterial activity. It is called the last line of defence for MDR GNB infections, against which antibiotics such as β -lactams, aminoglycosides and quinolones are ineffective.

The Livzon Group is developing polymyxin products. Our own API, polymyxin E sodium methanesulfonate, has obtained the European CEP and passed the FDA review. It is under the domestic application for marketing and the review of registration at present. In addition, Livzon Group is working out the formula of polymyxin preparations to facilitate the marketing.

Study on Drug Resistance of Fungi

In recent years, as more people are infected with immunodeficiency virus or undergo tumour chemotherapy, invasive fungal infections has gradually increased. At present, three types of antifungal drugs are available on the market: polyene, azole and echinocandin. After years of clinical use, high level of antifungal resistance is shown, severely limiting treatment options.

Livzon Group is developing a new class 1 drug with a brand-new mechanism of action and targets - fungi-specific enzymes. It is expected that no adverse reactions will occur when it is bound to human cells. The new mechanism of action is expected to tackle antifungal resistance. By the end of the reporting period, Livzon Group had confirmed the lead compounds which are under optimisation.

Help local producers to improve their ability

As an APIs supplier, Joincare's holding subsidiary Livzon Pharmaceutical Group shares its research results with less developed countries and regions overseas and proceeds technology transfer. We improve production ability of local formulation producers to ensure that they can match applicable international pharmaceutical production standards. In addition, Livzon Group helps local pharmaceutical enterprises to improve and optimise production procedures and quality control routine by providing technology transfer and analysis and detection scheme. Therefore, the level of local production technology is increased.

Case



Livzon Group gives impurity detection method to producers from developing countries for free

Any materials that effect drug purity are called impurity. The research on impurity is an important part in drug R&D. The control of impurities in drugs relate directly to the controllability and safety of drug quality. When Livzon Group's customers (formulation producers) in developing countries apply for international medicine production standard for formulation products, they need to conduct full research on impurities in preparation products and provide effective control. However, according to feedbacks from serval customers, they were unable to purchase eligible impurity standard in the market, which heavily impact the R&D and process of application for approval of formulation. By relying on its ability of R&D and quality analysis, Livzon Group developed its own impurity detection method, and it gives the method to generic drug pharmaceutical enterprises who lack of technology in new emerging markets and developing countries for free. Providing impurity standard breaks European and America suppliers' barriers of polymorphic protection, impurity control, and unique techniques for detection. Meanwhile, it pushes pharmaceutical manufacturers in developing countries to reach the standards required for regulatory approval in developed countries, which assist them to acquire certification of detection method and accelerate the commercialisation process of local pharmaceutical manufacturers.

07

Talent Management

Sticking to the value proposition of “Putting people first”, Joincare always regards people as the core driver of sustainable development. We attract and gather talents with an equal and inclusive attitude, and we respect their legitimate interest. With compliant employment, multilevel training, and comprehensive compensation and welfare, we provide a wide and fair career development path for employees to stimulate organisational vitality constantly. We pay great attention to the occupational health and well-being of our employees by optimising the working environment and office facilities to continuously improve their sense of happiness and belonging. Therefore, we grow together with our employees.

We always insist on developing employer branding by constantly optimising quality and level of human resource management, and we are highly recognised by external parties. In 2022, by relying on our investment and practice in organisation, culture, and talents, we emerged from numerous participating enterprises and were awarded by Zhaopin.com as the “China Preferred Employer of the Year 2022”.

7.1 Protection of Rights and Interests of Employees

Complying with the Labour Law of the PRC, the Labour Contract Law of the PRC, the Provisions on the Prohibition of Child Labour and other local and national regulations, Joincare has formulated the Code of Ethics for Employment and Conduct, which has been disclosed on our website. It has specified the employment management covering all employees (including full-time, part-time and temporary employees) of the Group and its subsidiaries, as well as all suppliers, contractors, service providers, customers and other partners in collaboration with the Group. In addition, Joincare keeps improving policies such as the Human Resources Management Regulations, the Training Management System, the Attendance Management System, and the Employee Handbook. We sign contracts with employees under the principle of free will to specify their rights and obligations. We fully protect employees' right to know in the hiring process, truthfully informing them of the content, conditions, work safety, and remuneration.

7.1.1 Diversity and Equality

Joincare advocates a diverse, equal and inclusive culture to attract and pool outstanding talents, and encourages employees with different backgrounds to give play to their talents. We formulate and follow the Diversity, Equity & Inclusion Policy which is published on the official website, and the Social Responsibility Committee under the Board is responsible for supervising diverse behaviours of the Company. In addition, we treat employees equally, and offer rights and benefits in all aspects of human resources management, such as hiring, promotion and compensation, to all employees regardless of their gender, age, ethnicity and nationality, encouraging employees of diverse backgrounds to give full play to their talents. Meanwhile, we improve the management rules regarding diversity in the Compilation of the Human Resources Management System. We ensure the full implementation of the rules through compliance audits on human resources management. In 2022, the Group's HR Department strengthened the collection, statistics and disclosure of diversity indicators to drive diversity in an orderly manner.

Case



Promoting workplace diversity at Livzon Group

Centering on promoting diversity in the workplace, Joincare's holding subsidiary Livzon Pharmaceutical Group keeps optimising organisational structure to ensure equal employment for women and promote diversity and inclusiveness. This year, Livzon Group set a quantifiable diversity goal that the proportion of female employees is not less than 49% by 2032 based on the current employment. Livzon Group will review the implementation of the diversity goal annually and prepare an annual diversity report, which is submitted to the ESG Committee for review, to ensure the implementation of diversity policy.

Joincare has further enriched the care activities to deliver more care to female employees and provided marriage, maternity, breastfeeding, and other leave stipulated by the national law. For example, we offer generous gift packages to female employees during their childbearing period, build caring rooms for working mothers, offer free body-shaping courses to all female employees, and carry out "Goddess Day" activities to enhance female employees' sense of happiness and belonging. By the end of the reporting period, the Group had 6,585 female employees, accounting for 46.65% of the total employees, with female management of 34.2%.

Number of female Group employees

6,585人

Percentage of female among all Group employees

46.65%

Percentage of female employees in management

34.2%

Furthermore, we respect and follow the ILO (International Labour Organisation) core conventions and the practices set out in the Universal Declaration of Human Rights of the United Nations to oppose all employment discrimination, forced labour, and child labour. By the end of the reporting period, no child labour or forced labour occurred in Joincare.

Case



Livzon Group conducts Human Rights Due Diligence

Joincare’s holding subsidiary Livzon Group has established systematic Human Rights Due Diligence, including human rights risk identification, annual implementation audit and report of human rights policy, and develop and implement mitigation and remediation measures. Livzon Group conduct Human Rights Due Diligence that covers all operational points and business-related activities every year. Details of Human Rights Due Diligence includes human rights protection terms in the Code of Ethics for Employment and Conduct, such as prohibition on forced and child labour, freedom of association, equal remuneration, anti-discrimination, and right to collective bargaining, etc.

7.1.2 Staff Communication

Joincare values the views and suggestions of employees. We have established smooth communication channels to support the employees’ spirit of ownership to promote company development. By conducting regular talks and talks during the probation period and before departure for employees, we understand their needs to solve specific difficulties in their work and life.

In order to smooth the employee grievance reporting channels, we established and strictly abide by the Measures for the Management of Complaining and Reporting, and we built a formal grievance reporting procedures where grievances can be reported smoothly and confidentially. We urge all employees to timely complain or report the violation of labour rights and any dissatisfaction. We strictly keep the confidentiality of the information on complainants as well as the content of complaints and take necessary measures to protect the physical safety and legitimate rights and interests of the complainants.

Protection Measures for Complainants

The information on whistleblowers and complainants as well as the content of reports and complaints should be strictly confidential. The materials and records of reports should be incorporated into confidential document management. The settled cases should be filed.

Receiving reports and complaints and verifying with relevant personnel, such as whistleblowers and complainants, should be conducted in a confidential way, without the identity of the personnel being disclosed.

Any personal information, including identity and rewards cannot be disclosed without the express consent of whistleblowers and complainants.

Labour Union Management

Joincare regards the labour union as an important link between management and employees. Joincare holds regular workers' congresses to maintain close communication with them to improve mutual understanding between the Group and employees and build a stronger sense of enterprise belonging. We hold canteen talks and dormitory talks every month to listen to employees' reasonable suggestions and keep them informed about their actual situation in meals, accommodation and other aspects, thus improving rules and regulations, and better protecting their rights and interests.

Workers' congresses is held by the Group union annually as scheduled to involve employees in important decision-making for close interactions.

Joincare continuously ensures unobstructed communication channels with employees. We plan to conduct regular satisfaction surveys for all employees of the Group and its subsidiaries every year. Based on this, we respect and understand advice and feedback from employees in time to improve employees' satisfaction and engagement.

Case



Livzon Group conducts employee satisfaction surveys

Joincare's holding subsidiary Livzon Group conducts employee satisfaction surveys once every year. Based on this, we comprehensively collect advice and suggestions from all employees and monitor employees' satisfaction to formulate a targeted optimisation plan. In 2022, Livzon Group hired a third-party institution again to conduct an employee satisfaction survey in accordance with the Kincentric model of the Gallup system from 16 dimensions, including employee engagement, work-life balance, career development opportunity, diversity and inclusion, performance management, and employer brand. The response rate of this survey was 97%, and the overall satisfaction score was 75%, which improved by 5% compared to 2021.

7.2 Talent Recruiting and Retention

Joincare highlights talent cultivation. With a formal talent development strategy, we recruit talents in a flexible and diverse way. While driving internal talent cultivation and promotion, we constantly introduce top talents to improve profitability and maintain core competitiveness. By the end of the reporting period, Joincare had 14,116 employees in total (31 December 2021: 13,234 employees), seeing continuous growth in the staff members.

In 2022, the Group promoted university-enterprise cooperation further. We collaborated with universities, including the Chinese Academy of Sciences, Sun Yat-sen University, Zhejiang University, China Pharmaceutical University, Shanghai Jiaotong University, Jinan University, Shenyang Pharmaceutical University, and Shenzhen University. By this, we fully understood the employment situation of fresh graduates to conduct point-to-point job fairs. We also provide a flexible intern program for graduates, and we offer full-time positions for excellent graduates during industry-university cooperation and internship. Therefore, we hired numerous high-quality fresh graduates to diversify our high-potential talent pool and facilitated the implementation of cooperative achievements. In addition, we joined hands with key medical universities to deliver joint training programs and explored the possibility of talent cultivation through partners with those universities. In close cooperation with key technical colleges, we continuously injected new forces into the front-line production to consolidate talent cultivation. This year, a total of 16 employees of Joincare's holding subsidiary Livzon Pharmaceutical Group attended the seminar of Shenyang Pharmaceutical University to continuously improve the medical knowledge system and professional skills. In addition, Livzon Group assists its subsidiaries in cooperating with Ji'nan University to support newly introduced doctors to make scientific researches at the university.



Number of Employees in 2022

14,116人



Number of Employees in 2021

13,234人

7.2.1 Building of Talent Teams

Joincare has been stepping up efforts in talent employment by experienced hire recruiting and campus recruiting. To reinforce our talent pool, we constantly expand recruitment channels, including online recruitment, internal recommendation, headhunting, and cooperation with governmental agencies. At the end of each year, we prepare a talent recruitment plan for the next year to meet departmental demands with a feasible and reasonable recruitment strategy. Meanwhile, we are committed to innovating talent introduction and selecting talents and evaluation methods based on job characteristics to ensure that candidates are qualified for the position and facilitate talent development at the Group. In 2022, we recruited 4,351 new employees.

Joincare has formulated talent retention plans to reduce the turnover rate, focusing on employee growth and providing a platform for employees' own value creation and self-improvement. We also provide appropriate promotion, motivation, and training for outstanding talents. We carry out regular talks with employees to listen to their voices, such as change of mentality and turnover intention. Through one-to-one interviews with outgoing employees, we know their reasons for leaving, which helps us to improve our talent retention plans. Furthermore, we conduct a statistic analysis on data of employee turnover rate and formulate specific improvement measures. In 2022, the Group's turnover rate was 17% (2021: 16%).

Over the past three years, no major layoffs or mergers and acquisitions affecting employees occurred in Joincare.



7.2.2 Training and Development

Joincare attaches great importance to internal talent training and strives to improve multi-level and diversified training systems. With a combination of online and offline learning courses, we carry out various training sessions, such as new employee orientation training, management training, employee on-the-job training, and career-based study for a master's or doctor's degree to constantly improve employees' soft and hard skills for satisfaction of their self-development needs. In line with the development strategy and job requirements, we spare no effort in developing and upgrading specific and pragmatic training courses. With the help of an online learning platform, our employees are able to learn anytime and anywhere.

By the end of the reporting period, we had provided 895,409 hours of training to all employees, with 63.4 hours of training per employee.

Case



Livzon Group conducts training for middle and senior management

In 2022, in order to strengthen the understanding of enterprise management for employees and reserve an efficient management operation team, Joincare's holding subsidiary Livzon Group provided 6 months class of EMBA and MBA for the middle and senior management team. The EMBA class includes senior management, leadership, innovation management, and strategy management, and the MBA class includes leadership cognition, execution, and organisational change. Meantime, we prepared exams to examine employees who were trained in these management classes, and the passing rate of both classes was 88% and 95%.

The Group aims to build a high-quality and energetic talent team. We constantly strengthen our ability of introducing and cultivating new blood. In 2022, we set up a training framework for fresh graduates covering three-stage career development: "Employment, Growth and Success". By organising new employee orientation training (including induction training, training sessions on corporate culture and job skills, and quality development exercises), we familiarise fresh graduates with the corporate profile and help them learn and adapt to the corporate culture for a smooth shift from campus to workplace. In addition, we have mentoring, job rotation and talk sessions to assist fresh graduates in fitting in with their team and mastering job skills as soon as possible. With the guidance of departmental managers and mentors, we ensure that such graduates will be able to accomplish important tasks by themselves in the future.

Case



“Dream & Future” fresh graduates training

In order to help fresh graduates quickly understand Joincare’s culture, system, and development, and help them take the first step toward society, we design specific training programmes for them. In July 2022, Joincare launched the five-day “Dream & Future” training program for campus recruitment. The intensive training was held together with Guangzhou Joincare, Haibin Pharma and Taitai Pharmaceutical under the overall management of the Group’s HR Department. The program aims to facilitate fresh graduates’ shift from campus to workplace, help them get familiar with the corporate culture and core values, and increase their sense of belonging through activities including massages from executives, team building, intensive course training, and outdoor exercises.



Joincare’s Training Program for Fresh Graduates

In 2022, we actively developed external training resources and customised employee training plans based on job characteristics and business needs. Specifically, the training plans for the functional personnel at Joincare focus on improving their general knowledge and professional skills; the plans for the R&D personnel focus on project management, testing skills and information retrieval; the plans for the production personnel focus on hands-on practice on work safety, machine operation, and environmental protection; and the plans for the salesmen to focus on product profile, compliant marketing, and marketing skills. Meanwhile, we encouraged internal lecturers to develop job-specific training courses for diversity.

Continuing Education and Qualification

To encourage employees to improve their professionalism, Joicare supports all employees (including part-time and contractors) to pursue higher education and qualification. Through projects such as career-based study for a master's or doctor's degree, we help employees upgrade their educational backgrounds and apply for specific qualifications or domestic professional titles. Meanwhile, we urge employees to obtain work-related professional qualifications after work, to improve their expertise and strive for better career development.

Moreover, we actively assist employees in applying for local qualifications for high-level talents, craftsmen, industrial innovation and development talents, and innovation teams based on local talent policies.

Case



External training program for R&D personnel

To broaden the R&D personnel's horizon and improve their occupational skills and professional competence, Joicare delivered specialised training to front-line management and experts based on the job characteristics and demands, including external training, academic exchanges and seminars, qualification training, and special operation training. Meanwhile, we granted full-amount subsidies covering training, transportation and accommodation, and meals, to motivate employees for all-round development.

Promotion Plans

Joicare respects employees' personal career planning and has established a dual-promotion mechanism (either as a professional or as an administrator) to provide all employees with equal career development. We adopt the combined "progressive promotion" and "exceptional promotion" approach for employees with outstanding performance or special expertise. Meanwhile, we continue to implement succession plans for talents at different levels. We also promote and cultivate employees with robust, comprehensive abilities and outstanding expertise to maintain a well-structured talent pool at the Group.

To drive the mobility of talents, we support the horizontal development of employees willing to transfer. Based on the job vacancies published internally, they can involve in internal recruitment. Employees who meet the job requirements and pass the interview can continue to contribute to the Group after the formal job transfer. They can fully play their talents in the new post based on their understanding of the current business operation.

7.2.3 Compensation and Employee Benefits

Joincare has developed and followed internal policies such as the Salary Management System and the Performance Management System in strict accordance with laws and regulations. In doing so, Joincare aims to build a fair and competitive welfare system by adopting an effective salary strategy that affects motivation.

The Group upholds the salary management philosophy of “ensuring the consistency between responsibility and benefit, the consistency between ability and value, and the consistency between performance and earnings”. We have established a compensation mechanism that divides salary into fixed and variable parts for all employees (including non-officer and non-sales employees). The variable compensation is subject to both the Group's performance and employees' performance. We believe this mechanism can make employees highly motivated.

Performance Appraisal and Feedback

Joincare has defined a mechanism for performance appraisal and feedback, and we implemented the parallel management system of OKR (Objectives and Key Results) and KPI (Key Performance Indicator). Performance appraisal is carried out semi-annually, including department- and employee-based evaluations. The former focuses on major tasks, lean management, team building, etc., while the latter focuses on individual performance, code of conduct, work improvements, etc. Meanwhile, it is critical for management to provide feedback and guidance to employees. After the performance evaluation, department supervisors will listen to employees' voices in performance talks, suggest improvements, and jointly formulate next-round performance goals and improvement plans.

In addition, to improve the Group's overall management and team performance, the Social Responsibility Committee of the Board of Directors has incorporated sustainability indicators, including occupational health and safety, environmental protection, and labour risk management, into the performance evaluation of employees at different positions.

Long-term Incentive Mechanisms

To further improve the Group's long-term incentive mechanisms and fully motivate core employees, Joincare has formulated various long-term incentive plans for directors, senior management, middle management and core technicians, to integrate the interests of shareholders, the Group and core team members.

Since the beginning of 2015, we have successively launched the 2015 restricted share incentive scheme and 2018 share options incentive scheme to improve the long-term incentive mechanisms for employees. Up to now, the 2015 restricted share incentive scheme was completed in 2019, and the 2018 share options incentive scheme was completed in 2022.

We developed the Medium to Long-term Business Partner Share Ownership Scheme (Draft) (2019 employee share ownership plan) at the end of 2019 to promote our long-term sound development, enhance the overall value and improve the benefit sharing mechanism. The plan benefits senior management and core personnel engaged in R&D, production, sales, and management with outstanding performance during assessment or significant impacts on the future performance. The validity period of the plan is from 2019 to 2028.

The First and Second Phase Ownership Schemes were approved on the Annual General Meeting in June 2021 and May 2022 respectively. On 7 June 2022, 6,275,372 shares were purchased through call auction in the secondary market for the Second Phase Ownership Scheme, with the trading volume totalling RMB75,740,661.60. The Second Phase of the Ownership Scheme involved 50 employees, including 5 participants from executives (excluding independent directors) and 45 other employees, with a 36-month lockup period. Through the Scheme, we are able to motivate and constrain our employees in the long term.

On 5 September 2022, the Board of Directors deliberated and approved the 2022 Share Options Incentive Scheme (Draft), on 5 September 2022, as the first day of the vesting period. According to the Scheme, 49.45 million stock options were granted to 423 employees, including directors, senior management, middle management, core technicians, and those recognised by the Board of Directors as deserving incentives. The Scheme, with meeting performance evaluation goals as the vesting condition, has fully driven the initiative and creativity of core employees, which is conducive to building a working environment with shared responsibilities and values.

Employee Benefits System

Joincare is committed to optimising the employee benefits system applicable to all employees to improve employee welfare. Per national and local regulations, we provide our employees with statutory holidays and contribute to pension, medical, unemployment, work-related injury, maternity, and housing provident funds. In addition to the statutory benefits, we provide various non-salary benefits for all employees (full-time, part-time, and temporary employees): we provide dormitories to our employees and assist them in applying for government-run talent apartments or housing subsidies for talents to ease their housing pressure; we set up an internal gym, with delivered courses such as dance, yoga and aerobics to encourage work-rest balance; we organise regular events such as year-end parties, celebrating traditional festivals, and team building to improve the corporate culture and created a harmonious and healthy workplace; we carry out cultural activities after work with a focus on employees' hobbies and interests to grow team spirit and balance employees' work and life; and we support employee physical health by regularly launching activities such as occupational health check-ups and on-site traditional Chinese medicine services. All these efforts contribute to greater feelings of happiness and belonging.

Table: Joincare Employee Benefits System

Statutory Employee Benefits	Employee Employee Benefits
<ul style="list-style-type: none"> • Statutory holidays • Statutory leaves, including sick leave, work-related injury leave, marriage leave, funeral leave, prenatal check-up leave, maternity leave, paternity leave, breastfeeding leave, and annual leave • Social insurance, including basic pension insurance, medical insurance, unemployment insurance, work-related injury insurance, and maternity insurance • Housing provident fund • Other statutory welfare 	<ul style="list-style-type: none"> • Dormitories • Government-run talent apartments • Housing subsidies for talents • Gifts for traditional holidays • Occupational health check-ups • Serious disease solatia for employees and their immediate family • Gifts for employee birthday • Retirement solatia • Funeral solatia • Wedding gifts • Flexible working methods • Work from home • Extra pay for hot weather • Gym • Team building • Associations • Yoga and dance • Recreation centre • Library • Lucky draw for the annual party • Afternoon tea parties • Academic pursuit for masters and doctors • Living allowance for talents introduced



Tea Party for Employees



Free Fitness Course



Heartwarming Women's Day



Badminton Game



On-site Traditional Chinese Medicine Services



Holiday Gifts



Lecture on Children's Growth and Education



Labour Union's Care

7.3 Occupational Health and Safety

Joincare upholds the safety management policy of “Safety First, Prevention First, Integrated Management” and advocates the “Putting People First” safety concept. We strictly abide by the laws and regulations regarding occupational health and safety, such as the Law of the PRC on Work Safety and the Law of the PRC on the Prevention and Treatment of Occupational Diseases. We have formulated the Safety and Environmental Management Manual and 18 other management policies based on the requirements of the ISO 45001 occupational health and safety management system to improve the EHS management and safeguard the health and safety of our employees. In 2022, the Group’s safety management focused on fire safety, occupational health, and lean management, with goals defined accordingly.

Joincare’s Occupational Health and Safety Goals in 2022:

Fire safety: No work safety accidents

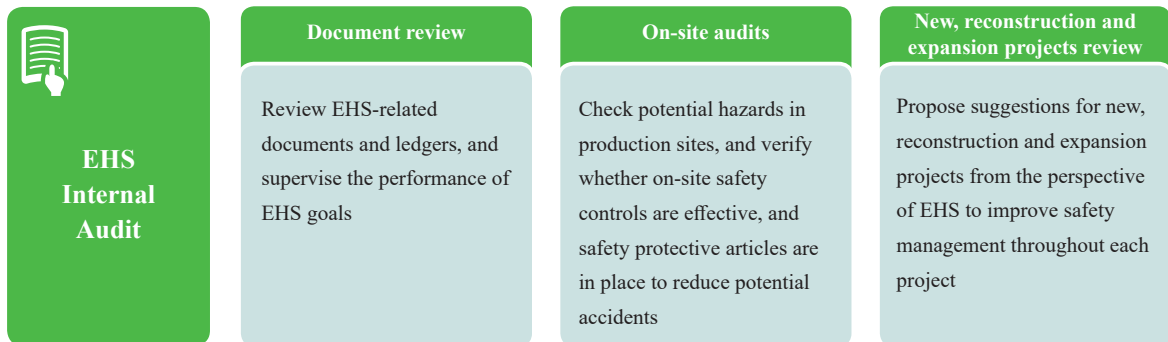
Occupational health: No new cases of occupational diseases

Lean management: Establish a system at the Group level in alignment with ISO 45001 and certify the system; prepare, review, and approve emergency plans and conduct emergency drills; carry out safety training on new employees and special safety training on specific employees.

The EHS Management Committee, as the highest decision-making body of EHS management, is responsible for formulating the overall EHS development strategy and policies on occupational health and safety. General Managers of Joincare and its subsidiaries are the first persons responsible for supervising and promoting EHS management to provide a safe and healthy working environment.

Joincare carries out EHS internal audits at least once a year to verify whether EHS management complies with ISO 45001, so as to improve the effectiveness of the EHS management system and ensure the compliant and effective management for modules such as safety, environmental protection, occupational health, fire protection, etc. in daily operation.

Joincare's EHS Internal Audit



Joincare continuously increases investments in occupational health and safety. We upgrade work safety technology and equipment, and carry out safety training, safety emergency drills and other activities. In 2022, we invested about RMB 41,426.8 thousand in occupational health and safety, with the expense breakdown as follows:

Table: Breakdown of occupational health and safety expenses

Work safety expenses	RMB41,426.8 thousand
In which: Expenses of safety training and education	RMB1,131.6 thousand
Expenses of safety emergency drills	RMB991.5 thousand

7.3.1 Occupational Health

Joincare follows and improves management policies such as the Occupational Health Management System and Operating Procedures, the Monitoring and Evaluation System for Occupational Hazard Factors in the Workplace, and the Regulation on the Management of Hazard Identification and Evaluation, to identify, analyse and control the occupational hazards that may arise or exist in the work process. We are keen to get accredited externally to further improve our occupational health and safety management system. In 2022, Joincare and its subsidiaries achieved ISO 45001 certification for their R&D, sub-contract manufacturing and sales of drugs, health products and food, and the sales of Class II medical devices.

In 2022, Joincare continued to invest in occupational health protection for employees. We built special funds to procure occupational health monitoring and labour protection articles and regularly maintained, overhauled and upgraded protective facilities. In 2022, no new or suspected occupational contraindications or occupational cases occurred.

Joincare’s Safeguards for Occupational Health and Safety

<p>Identifying occupational health hazards</p>	<ul style="list-style-type: none"> • Healthier and more harmless processes, equipment, materials, etc. are preferred to minimise the impact of hazards on employees; • Engage occupational health technical service institutions with appropriate qualifications to carry out regular testing for potential occupational health hazard factors; conduct occupational disease hazard evaluation in accordance with the Regulations on the Management of Occupational Health in the Workplace;
<p>Monitoring occupational health</p>	<p>Arrange regular occupational health examinations for employees in positions exposed to occupational disease hazards;</p> <ul style="list-style-type: none"> • Pre-job examination: Organise pre-job occupational health examination for employees who are about to engage in operations exposed to occupational hazards and operations with special health requirements; • On-job examination: Organise regular on-job occupational health examination for employees who are exposed to occupational hazards; • After-job examination: Employees are required to undergo health examination before they change posts or leave current posts that are exposed to occupational hazards.
<p>Safeguarding occupational health of special posts</p>	<ul style="list-style-type: none"> • Equip employees exposed to occupational hazards with labour protection articles and first aid supplies; • Set up warning signs in places where occupational disease hazards may be involved; • Maintain, overhaul and upgrade protective facilities against occupational diseases.

Case

Joincare Haibin’s occupational health management

In 2022, Joincare Haibin signed an agreement on health examination services with the Pingshan People’s Hospital, designating the hospital to provide examination services for Joincare Haibin’s employees exposed to occupational hazards. In addition, Joincare Haibin engaged a third-party service agency to identify occupational hazards in production sites, and pre-assessed occupational hazards of the second phase of expansion projects. Through pre-job, after-job and annual occupational health examinations for employees exposed to occupational hazards, Joincare Haibin established an occupational health profile for each of them. Besides, Joincare Haibin spread knowledge on occupational health in daily training and management.

7.3.2 Work Safety

Insisting on the work safety guidelines directing “safety awareness, legal compliance and continuous improvement”, Joicare has formulated management policies such as the Safety Management System Operation Control Management and the Operation Assessment System for Dual Prevention Systems to improve work safety management. We also have established a risk control mechanism to curb risks at the level of the Group, workshops and positions, respectively, and define the safety responsibilities of employees at all levels. In 2022, we improved the EHS Change Management System to ensure that the hazards arising from changes in production processes and facilities were under control.

Level 1 Major Changes	Level 2 Process Changes	Level 3 Workshop Changes
Changed by external experts	Changed by external experts upon an evaluation of subsidiaries' EHS Team	Workshops or departments are assessed by EHG Change Team

Joicare conducts regular internal audits on safety systems, delivers safety training to employees, and improves work safety infrastructure to ensure a safe workplace. Based on job characteristics and demands, we require new employees and those who have changed or returned to their posts to participate in pre-job training. In addition, we require special operation personnel to participate in qualification training, including training sessions for managers, safety management and special equipment operation, and acquire relevant certificates before work.

In 2022, no safety accidents occurred in the Group, achieving the “zero safety accidents” goal.

Safety Culture Cultivation

Through diversified training sessions and cultural activities themed on safety, Joicare has specified employees' safety responsibilities, cultivated their safety awareness, and publicised the safety concept. In 2022, the Group and its subsidiaries and holding subsidiaries carried out various EHS trainings, including safety training for new employees, fire-fighting knowledge training, training on toxic and explosive chemicals, canteen fire safety training, ISO system training, “Safety Month” education and publicity campaigns, laboratory safety knowledge training, dormitory electricity safety training, “National Day” work resumption training and emergency drill training. Such training sessions covered all the employees, with 786,236 hours in total and per capita training time for EHS training of about 55.7 hours, achieving the goal of “carrying out safety training for new employees, and special safety training for specific employees”.

In 2022, the Group and its subsidiaries launched “Safety Month” campaigns. By participating in various activities such as themed publicity and education, warning education on production accidents, safety training, emergency drills, and safety inspection, our employees became more aware of safety at work. They got motivated to create a safety culture with joint efforts.



Fire Drill



Training on Special Operation Safety Management

Safety Inspection

In 2022, Joincare and its subsidiaries carried out 1,322 safety inspections, including routine safety inspection, monthly and quarterly safety inspections, special inspections for hazardous chemicals, inspection by external experts, canteen safety inspections and other internal inspections. We received 4 external inspections by municipal authorities. To ensure work safety, we spared more efforts in safety inspection, including inspection for lightning protection, safety inspection for electric fire facilities, special equipment inspection, fire alarm system maintenance and other safety rectifications.

Emergency Plans and Drills

In 2022, Joincare prepared comprehensive emergency plans, special emergency plans and on-site disposal, which were reviewed and released. The Group's subsidiaries also developed emergency plans in response to safety emergencies and contractors' safety accidents. We conducted training and regular drills for related personnel and further improved our emergency plans according to the results of regular drills.

Case



Emergency drill on electric shock accidents

On 28 September 2022, the Group conducted an emergency drill on electric shock accidents. After this drill, our employees were able to respond more effectively and cooperatively to emergencies. Specifically, they could quickly cut off the power supply and smooth the aid channel during an electric shock accident. In addition, we kept them informed of the knowledge of emergency rescue and rescue procedures and improved our emergency plans' feasibility and reliability.



Emergency drill on methanol leakage and fire-fighting

On 29 June 2022, Jiaozuo Joincare organised an emergency drill on methanol leakage and fire-fighting in the reservoir according to the work safety plan and the Special Emergency Plan for Fire and Explosion Accidents. Participants in the drill include the production director, workshop managers, solvent administrator, section administrator, workshop safety guards, solvent monitors and shift workers. This emergency drill strengthened the coordination among emergency teams, and improved the emergency evacuation ability, rescue ability and safety awareness of all employees in case of methanol leakage and fire-fighting.



Integrated emergency drill

On 29 June 2022, Xinxiang Haibin organised an emergency drill to simulate a fire caused by static electricity in case of solvent leakage. The drill involved 115 participants from ten teams, including emergency repair, public security, emergency evacuation and material supply. After the drill, the General Manager organised the heads of all departments to summarise the drill, with 11 findings identified. Through this drill, employees were better informed of the accident response and report process, therefore, improving coordination among emergency teams.



08

Operating with Green Sustainability

Joincare upholds the sustainability principle and integrates green sustainability into every aspect of operation management. In this context, we vigorously promote cleaner production and low-carbon operation and enhance the overall environmental management capacity through multi-dimensional measures. By doing so, we are doing our bit to build a resource-saving and environment-friendly society, and support the carbon peaking and carbon neutrality goals.

8.1 Environmental Management System

Joincare strictly abides by laws and regulations regarding environmental protection, including the Environmental Protection Law of the PRC, Energy Conservation Law of the PRC, and Administrative Measures for Hazardous Waste. To optimise the internal environmental management system, we have released our own policies, including the EHS Management Policy, which has been disclosed in our website. In addition, we also introduced the Safety and Environmental Management Manual, General Requirements for the EHS Management System, and Requirements for Identification and Assessment of Environmental Factors. These are part of our efforts to improve our capability of managing environmental issues and take on our environmental responsibility pragmatically.

Joincare takes environmental pollution very seriously. We have introduced the “three simultaneous” policy, requiring each production subsidiary to ensure the pollution prevention and control facilities should be designed, constructed and put into use simultaneously with the project's main work. Meanwhile, we regularly maintain pollution abatement equipment and invest increasingly more in equipment and facilities upgradations and transformation of production processes and technologies to ensure normal, stable and efficient operation.

In 2022, no major environmental pollution accidents that would result in administrative punishments occurred at any production subsidiaries of Joincare.

Table: Investments of Joincare in environmental protection in 2022

Category	Amount (RMB'0000)
Technical upgradation of environmental protection equipment	3,255.08
Environmental protection operation and maintenance	9,018.40

8.1.1 Environmental Management Policies and Targets

Joincare adheres to the environmental management policy focused on “pollution prevention, legal compliance and continuous improvement”. Based on the environmental management status and performance, the Group set five-year targets of energy saving and emission reduction, covering the period from 2021 to 2025 with 2020 as the baseline. All production subsidiaries are required to refine their management of energy and natural resources and propel energy conservation and emission reduction at every link of production and operation to achieve environmental management goals together with the Group. The energy conservation and emission reduction goals and achievements of the Group are as follows:

Table: Energy conservation and emission reduction goals and achievements of Joincare from 2022 to 2025

Item	Indicator	Goals from 2022 to 2024	Achievements in 2022	Final goal by 2025
Water	Water consumption per unit production (RMB 10,000)	Down 1% from the previous year	Achieved	5% lower than in 2020
Electricity	Electricity consumption per unit production (RMB 10,000)	Down 1% from the previous year	Achieved	5% lower than in 2020
Chemical oxygen demand	Emission per unit production (RMB 10,000)	Down 1% from the previous year	Achieved	5% lower than in 2020
Sulfur dioxide	Emission per unit production (RMB 10,000)	Down 2% from the previous year	Achieved	10% lower than in 2020
Disposal volume of hazardous waste	Disposal volume per unit production (RMB 10,000)	Down 0.5% from the previous year	Achieved	2% lower than in 2020

To constantly enhance the environmental management level and performance, the Group sets annual goals for environmental compliance in operation and urges production subsidiaries to meet the required standard in terms of wastewater and gas emissions, major environmental pollution accidents, and annual environmental pollution penalties.

Table: Goals of environmental compliance in the operation of Joincare in 2022

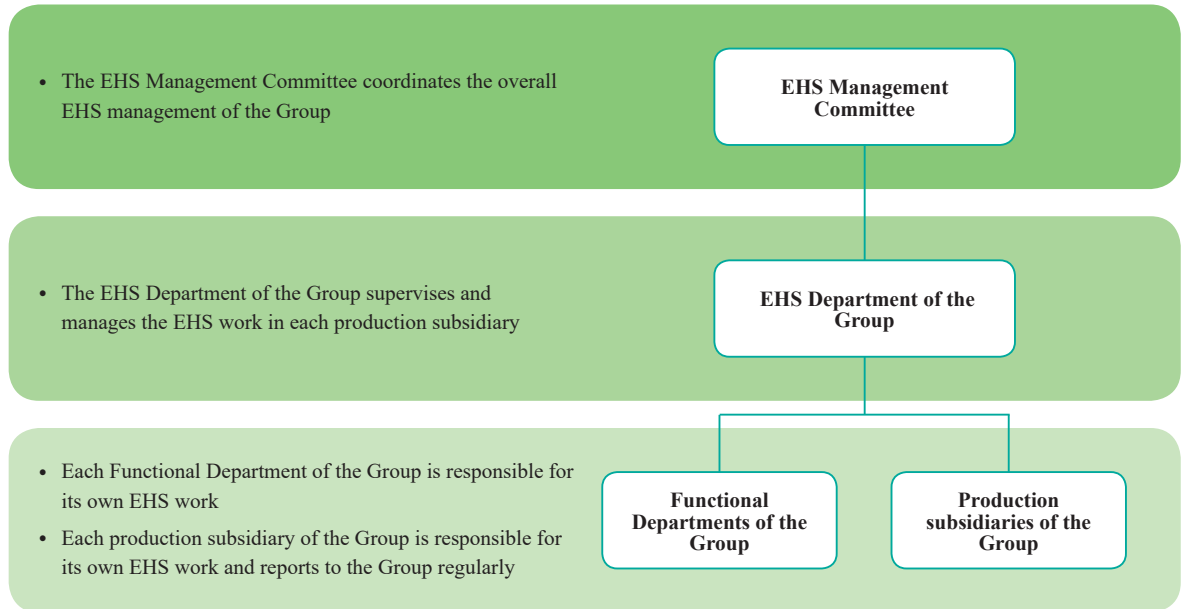
Indicator	Annual goals	Achievements
Compliant wastewater/gas discharge	100%	Achieved
Number of major pollution accidents	0	Achieved
Number of environmental penalties in the year	0	Achieved

8.1.2 EHS Management Structure

To enhance the EHS management level, Joincare continuously improves the EHS management structure to define responsibilities and ensure their performance according to the EHS Management Manual.

The Social Responsibility Committee of the Board of Directors is responsible for formulating EHS-related strategies & policies such as environmental management and resource utilisation, regularly reviewing the implementation of such strategies & policies, and reporting to the Board of Directors.

EHS management structure



Production subsidiaries of the Group have also developed a standardised EHS management system. As the first responsible person for EHS, the general manager is in charge of the overall environmental protection work; as the directly responsible persons, supervisors or department managers are in charge of the preparation of EHS initiatives, filing to the EHS Department of the Group, and supervision of the implementation of specific measures; employees of subsidiaries shall cooperate with the Group's EHS policy.

Joincare actively fulfils the responsibilities of carbon emission reduction management. The EHS Department is responsible for developing carbon emission reduction goals for the Group and its subsidiaries, reporting them to the Social Responsibility Committee of the Board of Directors for approval, and following up on the quarterly achievement of the Group's carbon emission goals. The general manager of each subsidiary, as the first person in charge of carbon emission, is responsible for scheduling carbon emission goals based on the actual situation of the company, working out effective carbon emission reduction measures, designating relevant responsible persons, and reporting the goal achievement to the EHS Department of the Group on a quarterly basis. Meanwhile, the management's remuneration is linked with the Group's environmental performance to accelerate the realisation of energy conservation, emission reduction, and carbon emission goals. ESG indicators have been added to the individual performance assessment of all Social Responsibility Working Group members since 1 January 2022, with a weight of 10% in the total performance system. ESG indicators include:

Table: Weight of ESG indicators in the assessment of Social Responsibility Working Group

Applicable to	Total weight of ESG indicators	(1) Energy conservation and emission reduction goals	(2) Carbon emission goals	(3) ESG Rating Objectives
All members of the Social Responsibility Working Group	10%	3%	3%	4%

8.1.3 Accreditation Certificates

The Group continues to improve the environmental management system to actualise environmental management tasks, and we seek cleaner production and apply for green factory certification. In 2022, Joincare and 100% of its production subsidiaries were accredited to the ISO 14001 environmental management system. Among all production-oriented enterprises of the Group, 4 enterprises were accredited as the national green factory, 1 enterprise as the provincial green factory. Details are as follows:

Table: Accreditation of the environmental management system of Joincare in 2022

Company name	GB/T24001 / ISO 14001 Certification	Clean production review	Green factory certification
Taitai Pharmaceutical	Accredited	Approved	/
Jiaozuo Joincare	Accredited	Approved	National
Xinxiang Haibin	Accredited	Approved	/
Joincare Haibin	Accredited	Approved	/
Haibin Pharma	Accredited	Approved	National
Livzon Syntpharm (Zhuhai FTZ)	Accredited	Approved	/
Gutian Fuxing	Accredited	Approved	/
Fuzhou Fuxing	Accredited	/	Provincial
Xinbeijiang Pharmaceutical	Accredited	Approved	National
Ningxia Pharmaceutical	Accredited	Approved	Municipal
Jiaozuo Livzon	Accredited	Approved	/
Sichuan Guangda	Accredited	Approved	/
Limin Factory	Accredited	Approved	/
Shanghai LivzonBio	Accredited	Approved	/
Shanghai Livzon	Accredited	/	/
Livzon Diagnostics	Accredited	/	/
Livzon MAB	Accredited	/	/
Livzon Pharmaceutical Factory	Accredited	Approved	National

8.1.4 EHS Audit

Internal Audit

To check whether the EHS management system is put into effective operation, Joincare conducted the internal audit based on the Group EHS Internal Audit Management Procedure. At the beginning of the year, the EHS Department of the Group works with the audit team on an annual internal audit plan based on vulnerabilities found in past internal audits and corrective actions taken by subsidiaries. The EHS Department conducts EHS audits on all subsidiaries at least twice a year, and makes timely summaries and prepares internal audit reports of subsidiaries after the audit. Subsequently, the EHS Department urges the rectification of unqualified items, compiles a group audit report every six months and submits them to the management for review. Corresponding production subsidiaries shall rectify unqualified items found in the internal audit under the guidance of the Management Regulations on Corrective and Preventive Measures. In 2022, the Group conducted 9 EHS internal audits on subsidiaries, of which 2 were completed via video-conferencing due to the COVID-19 pandemic. A total of 129 unqualified items were found in the annual EHS internal audit, of which 100% were rectified.

Production subsidiaries of the Group consciously and regularly inspect the stability of pollutant control equipment, the disposal method of solid waste and the launch of emergency drills, and rectify the unqualified items in a timely manner, to firmly ensure the compliance of EHS management and the effective operation of the Group's EHS management system.

External Audit

Joincare conducts an external audit of EHS annually and engages qualified third-party certification agencies to audit and supervise production subsidiaries that have obtained ISO certification. In 2022, we rectified all the unqualified items found and passed the external audit.

8.2 Addressing Climate Change

Climate change is one of the major global challenges. As extreme weather, such as rising sea levels and other climate issues, are becoming more prominent, it is urgent to address climate change. To this end, Joincare actively identifies the opportunities and challenges in climate change and embraces green development to help the national goal of achieving carbon peaking and carbon neutrality.

Governance and Strategy

Joincare organised a climate change response team at the Group level to tackle climate change issues in 2022. The team is responsible for studying and analysing the operations of the Group and its production subsidiaries, identifying potential climate change risks and developing measures to improve the overall resilience of the Group to climate change. In addition, the Group continuously works on energy conservation and emission reduction by means of energy management and improvement of environmental protection technologies and equipment to minimise the negative impact on the environment. Moreover, to comprehensively assess the carbon emission management level, several production subsidiaries took the initiative to examine their own carbon emission management to promote green enterprise development in 2022.

Identification of Risks and Opportunities

The Group stays focused on the impact of climate change on production and operation in both the short term and long term. We contrive to improve the overall capability to address climate risks by developing specific measures based on the identified physical and transition risks associated with the business.

Table: Climate risk identification and countermeasures

Category	Impact	Countermeasures
Physical risks	<ul style="list-style-type: none"> • Extreme weather events caused by climate change, such as torrential rains and typhoons, interrupt electricity transmission in plants and water supply or damage equipment, which will reduce productivity and threaten the safety of an enterprise's properties; • More frequent extremely scorching weather will harm the health of employee who works in high temperatures environment; • Rising sea levels reduce the useful lives of plants and facilities in coastal areas. 	<ul style="list-style-type: none"> • The Group pays close attention to climate change trends and formulates contingency plans for extreme weather according to the circumstances; • The Group has set up a special action team for typhoon disaster weather to ensure emergency material reserves and make every effort to reduce the impact of typhoons; • Xinxiang Haibin and Jiaozuo Joincare formed special teams for flood responses and Party member taskforce and purchased appropriate flood control materials, reinforcing flood response capabilities.
Transition risks	<ul style="list-style-type: none"> • Regulatory requirements for environmental protection are becoming more stringent. Besides, more national and local policies have been issued to limit corporate carbon emissions; • Climate change results in higher costs of raw materials and excipients and energy consumption for pharmaceutical production, and increasing logistics costs, which threatens the stability of the supply chain; • As the public pays more attention to environmental protection issues, an enterprise's failure to respond to climate change will affect the public's opinion of it or worsen its reputation in the market. 	<ul style="list-style-type: none"> • The Group vigorously takes green operation, energy conservation and emission reduction measures such as paperless office and shared office resources, and encourages employees to practice green office in order to reduce the environmental impact; • The Group reserves alternative suppliers of packaging materials, critical consumables and other materials to deal with risks on supply chain stability systematically; • The Group has set carbon emission goals and discloses information on climate change in corporate social responsibility reports.

Climate change brings not only risks but also opportunities to our business. With the advancement of the national carbon peaking and carbon neutrality, we have adopted active measures to address climate change. An accelerated transition to low-carbon operation can help us get the upper hand in the market competition. In the future, we will keep abreast of opportunities related to climate change and domestic policy updates, continue to increase investment in green production projects, and promote key projects for improving environmental protection management. Meanwhile, we will fully communicate with stakeholders to facilitate low-carbon actions and a green and low-carbon lifestyle.

Metrics and Targets

The Group's greenhouse gas (GHG) emissions mainly come from fuel combustion, electricity and purchased steam consumed in production and operation. Greenhouse gas emissions and energy use of Joincare in 2022 are as follows:

Table: GHG emissions and energy use of Joincare in 2022

Indicator	Unit	APIs	Formulations	Total
Direct GHG emissions (Scope 1)	Tonne of CO2 equivalents	200,223.2	2,250.7	202,473.9
Indirect GHG emissions (Scope 2)	Tonne of CO2 equivalents	718,484.5	116,655.1	835,139.6
Total GHG emissions	Tonne of CO2 equivalents	918,707.7	118,905.8	1,037,613.5

Table: Energy use of Joincare in 2022

Indicator	Unit	APIs	Formulations	Total
Gasoline	Litre	128,721.0	122,807.5	251,528.5
Diesel	Litre	193,979.5	2,846.0	196,825.5
Coal	Tonne	88,244.2	0	88,244.2
Liquefied petroleum gas	Tonne	1.1	5.7	6.8
Natural gas	10,000 cubic meters	768.8	89.5	858.3
Purchased steam	Tonne	772,718.5	159,725.6	932,444.1
Purchased electricity	10,000 kWh	84,140.5	11,805.0	95,945.5

In 2022, the Proposal on Adding Carbon Emission Goals to Joincare's Environmental Management was deliberated and approved at the meeting of the Board of Directors. According to the proposal, the carbon emission target of Joincare from 2022 to 2055 is to achieve carbon peaking by 2028 and carbon neutrality by 2055 (Scope 1 and Scope 2¹).

Table: Carbon emission targets of Joincare from 2022 to 2025

Year	Item	Indicator	Targets
2022	Carbon emission	Emission per unit production (RMB 10,000)	2% lower than 2021
2023	Carbon emission	Emission per unit production (RMB 10,000)	4% lower than 2021
2024	Carbon emission	Emission per unit production (RMB 10,000)	6% lower than 2021
2025	Carbon emission	Emission per unit production (RMB 10,000)	8% lower than 2021

Note 1: Scope 1 emissions are direct GHGs actually released into the atmosphere within the geographical boundary of an enterprise, generally from the combustion of fossil fuels, including coal, gasoline and diesel; Scope 2 emissions are indirect GHG emissions released from electricity and heat (steam/hot water) purchased by an enterprise.

8.2.1 Energy Management

The Group takes steady steps to develop the energy management system in strict accordance with laws and regulations such as the Energy Conservation Law of the PRC and the Law of the PRC on Promoting Clean Production, based on ISO 50001 standards. Each production subsidiary of the Group has established an energy management system based on their actualities. They identify their energy availability through on-site investigation, data verification and energy data analysis, fully exploit energy-saving potential, and formulate practical measures for efficient and orderly energy management.

Table: Energy system accreditations of Joincare's production subsidiaries

Company Name	Energy system accreditation	Name of the energy system
Jiaozuo Joincare	Accredited	RB/T114-2014
Xinxiang Haibin	Accredited	RB/T114-2014
Haibin Pharma	Accredited	ISO 50001:2018
Fuzhou Fuxing	Accredited	ISO 50001:2018 / RB/T114-2014
Xinbeijiang Pharmaceutical	Accredited	ISO 50001:2018 / RB/T114-2014
Livzon Hecheng	Accredited	GB/T23331-2020/ RB/T 114-2014

We incorporate the energy management concept into the work processes. Especially in production, we take measures to improve energy use efficiency for energy conservation and emission reduction. We also increase the investment in green production projects and strive to build a low-carbon and energy-saving green production enterprise. The green production projects during this year are as follows:

Table: Green production projects of Joincare in 2022

Company Name	Project Name	Investment Amount	Result
Jiaozuo Joincare	Preheater maintenance and upgrade	RMB500,000	Maintained and upgraded the preheater of the rectifying column 1# of the solvent reservoir, resulting in much higher heat exchanging efficiency, which could save steam consumption by about 2,000 tonnes per year and reduce carbon dioxide emissions by about 600 tonnes per year.
	Upgrade of isopropyl alcohol distilling structure	RMB300,000	Changed isopropyl alcohol distilling from two-time to one-time by restructuring the distilling tower of the 4A plant, improving the distilling efficiency, saving the steam consumption by about 120 tonnes per year and reducing carbon dioxide emissions by about 36 tonnes per year.
	Replacement of centrifugal blowers	RMB700,000	Replaced the centrifugal blowers in the industrial wastewater workshop with more energy-saving air suspension blowers, saving power by about 140 thousand kWh per year and reducing carbon dioxide emissions by about 60 tonnes per year.
Xinxiang Haibin	Technological improvement of circulating pumps	/	Carried out energy-saving technical improvement for circulating pumps. Under an agreement with a third party, the third party provided the energy-saving pumps, and both parties shared the energy-saving benefits. Electric power of about 892,800 kWh was saved in the year, including 245,400 kWh at Xinxiang Haibin.
Livzon Syntpharm (Zhuhai FTZ)	Recycling of boiler exhaust heat	RMB800,000	Replaced the former boilers and installed a set of exhaust heat recycling device to reduce energy consumption. The project had been commenced and was expected to save 140 thousand cubic meters of gas per year upon completion.
Gutian Fuxing	Replacement of former boilers and recycling of exhaust heat	RMB4,500,000	Replaced the former boilers with energy-saving ones and installed exhaust heat recycling devices to reduce energy consumption. The project had been commenced and was expected to save 1,800 tonnes of coal per year upon completion.

8.3 Emission Management

Joincare abides by national and local laws and regulations such as the Law of the People's Republic of China on Environmental Impact Assessment, the Law of the People's Republic of China on Prevention and Control of Soil Contamination, the Law of the People's Republic of China on the Prevention and Control of Air Pollution and the Regulations on the Safety Management of Hazardous Chemicals. We strictly control emissions and perform our environmental protection responsibilities. We have formulated systems documents such as the Safety and Environmental Management Manual and the Environmental Protection Management Assessment System in light of our own operating conditions. Based on this, the classification method, monitoring method, disposal process and emission standard of all emissions are specified. This ensures that emission management is based on unified systems and standards. We strive to build a green production line for sustainable development.

In addition, the pollutant emission is under our control throughout the production process. All production subsidiaries of the Group have applied for a sewage discharge permit in accordance with the law on the unified national platform. After obtaining the permit, they discharge in strict accordance with the requirements within the validity period and firmly ensure the compliance of pollutant emission. Furthermore, we have formulated a self-monitoring plan based on the environmental impact assessment requirements and sewage discharge permits. We hire qualified third-party testing agencies to monitor wastewater, waste gas, and noise regularly. Based on the testing results, we conduct self-inspection and correction of non-standard behaviours, and strive to minimise the negative impact of production on the environment, as part of our environmental protection efforts.

8.3.1 Solid Waste Management

Joincare stores, collects, disposes and transports wastes in strict accordance with the standards and regulations such as the Catalogue of Classified Management of Fixed Pollution Source Discharge Permits and the Standards for Pollution Control of General Industrial Solid Waste Storage and Disposal Sites. Therefore, legal compliance is ensured in solid waste treatment. Adhering to the principles of Reduction, Resource Utilisation, and Harmless Processing, we strictly control the discharge of solid waste in waste generation, reuse and harmless disposal links, with the aim of reducing our impact on the environment.

Solid waste management measures

Reduction

- In 2022, in terms of solid waste management, Xinxiang Haibin invested approximately RMB 1,500,000 to build a negative pressure distillation unit, which can reduce the water content of hazardous waste by re-evaporating and re-concentrating the MVR mother liquor, reducing the water content of the hazardous waste. The unit can reduce hazardous waste by 150 tonnes per year and save about RMB 450,000 in disposal costs.
- A hazardous waste research group is formed at Xinxiang Haibin. After brainstorming and several experiments, the sources of high-concentration wastewater were successfully subdivided. Through the separate pretreatment of wastewater from workshops, the wastewater is subject to negative pressure concentration in the sewage workshop, which reduces the water content of the mother liquor. In this way, less hazardous waste is generated.
- This year, Livzon Syntpharm (Zhuhai FTZ) followed up the operation of the activated carbon recycling project. With expected performance, the project can reduce the production of waste activated carbon by over 12 tonnes per year and save disposal costs of more than RMB 48 thousand.
- In 2021, Fuzhou Fuxing cooperated with South China University of Technology in research and development of reduction and resource utilisation of fungi residues. This year, Fuzhou Fuxing continued to run this project and achieved remarkable results as expected, reducing the annual output of fungi residues by more than 3,200 tonnes.

Resource Utilisation

- The solid waste yard is equipped with a separate recyclable waste area, which classifies recyclable items in advance and facilitates the recycling of resources.

Harmless Processing

- Xinxiang Haibin has signed a disposal agreement with organisations qualified for waste treatment to decontaminate the sludge produced by the company.
- Xinxiang Haibin has signed disposal agreements with six companies with hazardous waste disposal qualification so that hazardous wastes are disposed reasonably, safely and in a standard manner.

Table: Waste treatment of Joincare in 2022

Indicator	Unit	Active Pharmaceutical Ingredients	Preparations	Total
General industrial waste	Tonne	135,872.7	15,450.4	151,323.1
Hazardous Wastes	Tonne	6,131.3	278.7	6,410.0
Among which: Pharmaceutical waste and waste medicines	Tonne	3,228.7	124.2	3,352.9
Other hazardous waste	Tonne	2,902.6	154.5	3,057.1

8.3.2 Waste Gas Management

In accordance with the Law of the People's Republic of China on the Prevention and Control of Air Pollution and other laws and regulations, Joincare makes continuous efforts to strengthen the management of waste gas emissions. We have formulated and implemented waste gas management systems such as the VOCs Collection and Management System, the Boiler Waste Gas Emission Management System, and the Standard Operating Procedures for High-concentration Waste Gas Treatment Systems. All production subsidiaries are required to standardise the management process and ensure the waste gas emission is up to standard. The production subsidiaries of the Group strictly implement waste gas management and take effective measures to minimise the impact of waste gas emissions on the environment based on their actualities.

Xinxiang Haibin is taken as an example to detail relevant information:

Digital monitoring and manual detection of waste gas: Xinxiang Haibin has installed monitoring equipment for organised and unorganised waste gas emissions, which is managed and operated by a qualified third party. Real-time monitoring is imposed on the waste gas pollution factors. Data is uploaded to the automatic national monitoring and basic database system for key pollution sources in real-time. At the same time, according to the requirements of the emission permit and the company's self-monitoring plan, Xinxiang Haibin conducts manual detection of the waste gas every quarter for authenticity and accuracy of related data and efficient management of the waste gas.

Daily inspection and feedback of waste gas concentration detection: Xinxiang Haibin conducts daily concentration detection of environmental pollutants in production areas and key areas, and reports the results and waste gas leakage to all production departments for timely rectification of unqualified items.

Timely replacement of waste gas equipment and materials: through shutdown and maintenance, the activated carbon in the adsorption device for high-concentration waste gas is regularly replaced, and the regenerator and pall ring packing in the Regenerative Thermal Oxidiser (RTO) are also replaced for stable operation of waste gas treatment facilities.

Joincare's production subsidiaries have increased their investment in waste gas management and achieved effective management of waste gas emissions by upgrading waste gas treatment equipment and process.

Table: Major waste gas management and improvement projects of Joincare in 2022

Company Name	Project Name	Investment Amount	Result
Haibin Pharma	Laboratory waste gas treatment system	RMB350,000	The laboratory waste gas is treated with a new laboratory waste gas treatment system, reducing VOCs by 250 kg/year.
Taitai Pharmaceutical	Low-nitrogen transformation and acceptance of 4T boiler	RMB380,000	The burning system of the steam boiler in the boiler room was transformed into a natural gas low-nitrogen system. As a result, the emission concentration of nitrogen oxide was much lower than 30 mg/m ³ , reaching Shenzhen's technical index standard of environmental protection and low nitrogen emission.
Xinxiang Haibin	Waste gas renovation of the biochemical system	RMB500,000	The biochemical system was renovated by adding a primary alkali spray tower and UV photooxidation catalytic equipment, improving the efficiency of odour waste gas treatment through combined processes.
	Closed renovation of the secondary settling tank and regulation tank	RMB530,000	Through the closed renovation of the secondary settling tank and regulation tank, the closed collection efficiency of waste gas was increased, and the area's air quality was improved.
	Modification of membrane recovery units	RMB1,000,000	By adding resin absorbers to the rear ends of two membrane recovery units for tail gas, the concentration of waste gas discharged into RTO was significantly reduced, with solvents recovered at a rate of 50 kg per day and 15 tonnes per year, which promoted the effective recovery and utilisation of resources.
Xinbeijiang Pharmaceutical	Upgrading of waste gas treatment facilities of sewage plant	RMB1,260,000	Xinbeijiang Pharmaceutical entrusted Yantai Shengze Environmental Protection Technology Co., Ltd. to upgrade the biological deodoriser of the sewage plant by adding two-stage high-efficiency waste gas spray tower and reinstalling the pre-processing waste gas collection pipeline. In doing so, it has improved the waste gas treatment efficiency and reduced the waste gas emissions of the sewage station.
Ningxia Pharmaceutical	Upgrading of fermentation waste gas treatment	RMB2,800,000	The waste gas treatment facilities in 103-2 fermentation plant were upgraded by installing a set of waste gas treatment facility, with capacity of 85,000 m ³ /h and treatment process of "absorbing the waste gas with sodium hypochlorite + water spray + biphasic ozone water + micro-nano bubbles", greatly improving the waste gas treatment efficiency.

Table: Emissions of main waste gases of Joincare in 2022

Indicator	Unit	APIs	Formulations	Total
Volatile organic compounds	Tonne	30.2	0.3	30.5
Nitrogen oxide	Tonne	103.3	2.6	105.9
Sulfur dioxide	Tonne	32.3	0.6	32.9
Particulates	Tonne	16.5	0.7	17.2

8.3.3 Wastewater Management

According to laws and regulations such as the Water Law of the PRC and the Water Pollution Prevention and Control Law of the PRC, Joincare has established the wastewater management system and formulated a series of standard operating procedures to ensure the stable operation of treatment facilities and the up-to-standard discharge of wastewater. The production subsidiaries of the Group also upgrade the processes and equipment that produce wastewater, and strive to reduce the discharge of wastewater.

Table: Major wastewater management and improvement projects of Joincare in 2022

Company Name	Project Name	Investment Amount	Result
Jiaozuo Joincare	Renovation for aeration facilities of CASS tanks	RMB660,000	The stable operation of wastewater treatment facilities was ensured by replacing the aeration system facilities of CASS tanks in the wastewater treatment tank.
Xinxiang Haibin	New anaerobic sewage treatment system	RMB5,000,000	In the anaerobic section of sewage treatment, new facilities such as a hydrolytic acidification tank, AE anaerobic reactor, anaerobic settling tank, biogas tank and 0.7MW biogas atmospheric hot water boiler, were built to convert organic pollutants into biogas, removing 1,188 tonnes of COD, producing more than 500,000 cubic meters of biogas per year and realising the recovery and reuse of resources.
	Biochemical system transformation	RMB200,000	Carbon sources were regularly replenished with 2 more digestive liquid reflux pumps. The average annual value of total nitrogen discharged from the biochemical system was reduced to 13.876 mg/L, far below the emission standard for total nitrogen of 50 mg/L in the emission permit.
	Transformation of secondary settling tank mixers	RMB400,000	The stable and efficient operation of the wastewater treatment system was ensured by adding 2 PAM mixing tanks to the secondary settling tank and replacing the valves.
	Light components removing system	RMB2,000,000	With a new single-component light component removal system, the phase-separated wastewater discharged from production was dissolved, rectified and dehydrogenated. After the treatment and recovery by the system, an average of 500L of solvent was recovered per day, and more than 150 tonnes were recovered for production annually, realising the cyclic utilisation of resources and reducing the wastewater production cost.
Fuzhou Fuxing	Construction of sewage treatment facility	RMB4,900,000	The sewage treatment capacity was increased to 7,000t/a at present, increasing by 3,000t/a after a new sewage treatment system was built and the “regulation + hydrolytic acidification + CASS + flotation water-treatment” technology was adopted.
Gutian Fuxing	Cooling water recycling	RMB600,000	A set of cooling water recycling system is built to recycle cooling water for fermentation. It reduced both fresh water consumption and sewage production.

Table: Main wastewater and pollutant emissions of Joincare in 2022

Indicator	Unit	APIs	Formulations	Total
Wastewater emission	Tonne	10,156,979.5	953,534.4	11,110,513.9
Chemical oxygen demand	Tonne	1,011.9	17.5	1,029.4
Ammonia Nitrogen	Tonne	100.4	0.7	101.1

8.3.4 Noise Management

Joincare strictly abides by the Environmental Noise Pollution Prevention and Control Law of the PRC, Environmental Noise Emission Standards for Industrial Enterprises Boundary, and other relevant laws and regulations. We test the noise at the plant boundary with a noise detector every month to ensure that the noise during daytime/night is lower than the national emission limits. The production subsidiaries of the Group also actively optimise the production equipment, and try to reduce the impact of production noise on the environment by adding soundproof houses and nitrogen generator mufflers.

Case

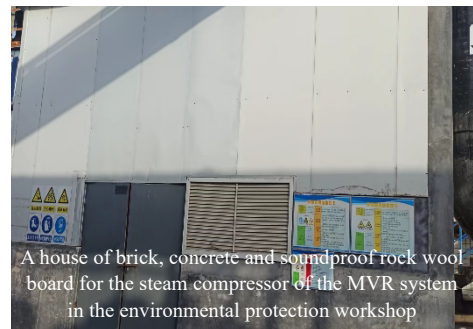


Soundproof houses for large equipment



A soundproof house for the nitrogen production system

In 2022, Xinxiang Haibin set up a special soundproof house in the nitrogen production system workshop to control the loud noise generated by the 600-nitrogen production system in the power workshop.



A house of brick, concrete and soundproof rock wool board for the steam compressor of the MVR system in the environmental protection workshop

In addition, Xinxiang Haibin built a soundproof house of brick, concrete and soundproof rock wool board in the discharge compressor room to control the loud noise generated by the 5T/H steam compressor of the MVR system in the environmental protection workshop.

Case



Replacement with low-noise vacuum pumps

In 2022, Xinxiang Haibin replaced the reciprocating oil-free vacuum pumps, which had a high noise level and serious exhaust emission problem, with the screw vacuum pumps, which had a low noise level and low energy consumption.



New screw vacuum pumps

8.4 Resource Utilisation Management

8.4.1 Water Resources Management

At Joincare, we attach great importance to resource management and embrace clean production. We strictly control the consumption of water resources and increase water efficiency by improving water treatment technology and strengthening the maintenance of facilities. For example, 3 softened water equipment in the production workshop at Xinxiang Haibin has been replaced with tap water equipment, which is connected to the circulating water tank for recycling. As a result, the daily water consumption of the circulating water can be reduced by 60 cubic meters, and the water saved amounts to 19,800 cubic meters per year; By replacing the tap water used in production with steam condensate and reusing the steam condensate to the closed cooling column, the consumption of tap water can be reduced by 15 cubic meters per day and 5,000 cubic meters per year.

Table: Major water-saving projects of Joincare in 2022

Company Name	Project Name	Investment Amount	Result
Jiaozuo Joincare	Secondary utilisation of high-concentration water	RMB 200,000	The highly concentrated water wastewater of the Company is reused to replace the production water for pharmaceutical formulation, filter belt cleaning for concentration machines and plunger pump cooling, saving 220,000 tonnes of production water annually.

Table: Water resources usage of Joincare in 2022

Indicator	Unit	APIs	Formulations	Total
Total Water Consumption	10,000 tonnes	1,126.5	174.0	1,300.5

8.4.2 Material Utilisation Management

Joincare takes positive steps to implement the resource recycling policy and optimise material management for higher resource utilisation efficiency.

We optimise the layout of the storage area. The packaging materials and excipients are stored by area, layer and category to save storage space. We optimise the material transportation route to improve the utilisation of elevators and material transportation. In addition, we have improved the product packaging design and product specifications, and recycled the consumables, such as corner strips and packing belts used for packaging the finished products. Haibin Pharma is taken as an example to detail relevant information:

- **Alteration of packaging specifications:** Meropenem - 910 bottles per carton (previously 728 bottles per carton); Meropenem for injection (formulation) - 400 per carton (previously 200 per carton); bottle of Meropenem for injection (formulation) - 15 ml (previously 20 ml); Imipenem for injection (formulation) - 10 per box (medium size) (previously 1 per box). The use of packaging materials is minimised as long as the market and production demand can be satisfied;
- **Reuse of charcoal bags:** 2 new charcoal bags and 2 old charcoal bags are used per batch instead of 4 new charcoal bags, resulting in fewer pollutants and lower costs.

We also actively implement the idea of the circular economy in the anniversary celebration, and we provide souvenirs made of recycled operational wastes to employees as presents.

Case

Environmental protection souvenirs of Joicare 30th anniversary celebration

The 30th anniversary of Joicare establishment was in 2022. We cooperate with environmental protection fashion brand BOTTLOOP to custom anniversary celebration gifts. By using recycled remaining PE package materials and empty water bottle from functional departments, gifts such as environmentally friendly shopping bag, T-shirt, and mug are produced. The purpose is to spread the idea of social responsibility of health and environmental protection to employees while demonstrating the meaning of anniversary celebration.



Environmentally friendly shopping bag



Environmentally friendly T-shirt



Environmentally friendly mug

09

Public Welfare and Charity

At Joincare, equal emphasis is attached to business development and public welfare projects. We keep a close eye on communities' needs for growth and hope to drive the development of the industry with our business and technical advantages. We support national rural revitalisation with industrial assistance projects and popularise medical knowledge and health concepts with health-based public welfare activities. We spare no effort to serve society and will embrace challenges ahead with stakeholders to build a society in which every person is as happy and healthy as they can be.

9.1 Promoting Industry-based Welfare

Joincare strives to be a pioneer in the healthcare industry and promotes the Chinese inhalation formulation industry through enhancing exchanges and cooperation with industry associations and societies and leveraging cutting-edge industry technologies and trends. Jinfang, research fellow and the chief scientist of the Group, as a member of Medical and Chemicals Technical Options Committee (MCTOC), is mainly participating in research and reporting related to MDI inhaler propellant substitution. As a subordinate institution of Technology and Economic Assessment Panel (TEAP), MCTOC conducts science and technology evaluation on materials that destroy the ozone layer and their substitution in alliance with the other Technical Options Committees (TOCs). Based on this, MCTOC provides suggestions to parties who signed the Montreal Protocol, thus contributing to the fulfilment of Montreal Protocol in the world.

The process of R&D, production, and quality control of inhalation formulation, which is a high-end formulation variety, have relatively large difference when compared to regular oral or injection. In order to guide the cognition of risk control point for on-site inspector, conduct effective inspection, and ensure the product safety after launching, Joincare, led by Guangzhou Institute of Respiratory Health, took part in the compilation of Guideline for On-site Inspection of Inhalation Formulations. The compilation of this guideline was led by Center for Food and Drug Inspection of NMPA, and the guideline was launched on 6th Mar 2023.

In addition, we take initiative in fulfilling our social responsibilities as a pharmaceutical company to further guarantee the safety, effectiveness and quality of clinical drugs. Specifically, we have assisted in improving inspection standards of Ipratropium Bromide Solution for Inhalation for Guangdong Institute for Drug Control, of Budesonide Suspension for Inhalation for Hubei Institute for Drug Control, and of Levosalbutamol Hydrochloride Nebuliser Solution for Shanghai Institute for Food and Drug Control respectively.

Case



Participation in the 2022 “Gusu Dialogue” Inhalation Formulation Forum

As an active promoter of the internationalisation of the Chinese inhalation formulation industry, we practice process-wide quality and risk control for inhalation formulations together with industrial partners along the upstream and downstream supply chain. In August 2022, the 2022 “Gusu Dialogue” Inhalation Formulation Forum organised by the Pharmaceutical Engineering Specialised Committee of the Chinese Pharmaceutical Association and the State Key Laboratory of Respiratory Disease was successfully held in Suzhou. During the forum, the Group were engaged in active discussion on two themes, which are risk identification and control in inhalation formulation registration inspection and new trends for raw and auxiliary materials packaging and inhalation devices. Besides, our chief scientist Dr. Jin Fang made a speech on the theme of “Risk Considerations in Inhalation Formulation R&D and Production Sites”. This event brought together various market players to converse on the industrialisation of the Chinese inhalation formulation sector from a scientific and professional angle.

9.2 Promoting Health-based Welfare and Charity

Joincare takes the initiative in fulfilling its social responsibility as a pharmaceutical company and makes practical contributions to inclusive chronic disease prevention and treatment, industrial assistance, community health and nature protection. In 2022, Joincare donated about RMB 12,117 thousand to public welfare projects, including cash of nearly RMB 5,699 thousand and goods worth about RMB6,418 thousand.

9.2.1 Rural Revitalisation

Chronic disease prevention and treatment

Acting upon the national policy of rural revitalisation and common prosperity, Joincare helps consolidate and expand the achievements made in poverty alleviation in coordination with the extensive drive for rural revitalisation. In particular, Joincare, by leveraging its industrial advantages, joined hands with the Group’s holding subsidiary Livzon Group to carry on the “Access to Public Welfare for Chronic Diseases Prevention and Treatment Program”. We donated drugs for treating chronic diseases, including Pravastatin Capsules (普伐他汀钠胶囊), Amlodipine Besylate Capsules (苯磺酸氨氯地平胶囊), Valsartan Capsules (缬沙坦胶囊) and Isosorbide Mononitrate Tablets (单硝酸异山梨酯片) to poor families in remote areas with chronic diseases, such as hypertension, hyperlipidemia, cardio-cerebral diseases. In doing so, we expected to reduce the medical burden of patients’ families.

Since late 2018 onwards, we have carried out the “Access to Public Welfare for Chronic Diseases Prevention and Treatment Program” successively in areas including Sichuan Province, Shanxi Province, Gansu Province, Jilin Province, Tibet Autonomous Region, Henan Province, Anhui Province, Hunan Province, Jiangxi Province as part of our efforts to promote rural health. By the end of the reporting period, we had signed 19 agreements on the “Access to Public Welfare for Chronic Diseases Prevention and Treatment Program”, which covers 8 provinces and 1 autonomous region, including 17 remote areas in need of help, and benefiting over 6,400 patients on low income and with chronic diseases. In 2022, this program was honoured as the “Top 100 Citizen Satisfaction Projects” in the 19th session of Shenzhen Project Care.



Top 100 Citizen Satisfaction Projects

Industry-based assistance

To consolidate and expand the achievements in poverty alleviation, the Group provides industry-based assistance to empower the sustainable development of the rural economy using its industrial advantages. Following the “Astragalus Root (黄芪) Industry Revitalisation” plan and the model of "Company + Base" and "Company + Professional Cooperative”, Joincare’s holding subsidiary Livzon Group works to make the astragalus root industry a pillar industry in the long-term with reference to the local conditions.

Case



Industry-based assistance to promote the development of the astragalus root industry

In 2022, Joincare’s holding subsidiary Livzon Group continued to promote the development of astragalus root industry, expanding Astragalus Root Industry Planting Base of 300 mu in Hunyuan county, Datong city, Shanxi and hiring additional 55 local workers. In addition, Livzon Group and the village committee of Mazhuang Village, Guaner Township, Hunyuan County jointly launched the project of building a factory for primary processing of fresh Astragalus Root. At present, the project has been completed and put into use. The project has increased the income of both parties and supported the development of local astragalus root industry. This year, our planting bases in Shanxi and Shaanxi employed 85 local workers and harvested 184.50 tonnes of fresh astragalus root.

9.2.2 Community Health

The Group committed itself to organising health-related and education-based public welfare activities in the form of videos, expert live broadcasts and lectures. This year, we won the "Most Socially Responsible Award" from Douyin as an acknowledgement of our science education efforts on the platform. We also launched a support program for patients with bronchiectasis. Those patients can receive help with one-on-one service on the Enterprise WeCom Expert's Little Helper. The service includes medication consultation, disease consultation, and free clinical treatment by experts.

Education-based public welfare activities

Lecture on Respiratory Diseases "Respiratory Experts' Views"

- 60 live sessions were delivered via the video account "Respiratory Experts' Views". We had a live-streaming week for World Asthma Day and four lectures for World COPD Day. Talks from famous experts and professors were also broadcast live to disseminate knowledge of childhood asthma and chronic obstructive pulmonary disease.
- Worked with 116 hospitals nationwide to familiarize the public with asthma prevention and treatment.
- Produced a short public service video on the diseases in collaboration with Southern Weekly.

Public Lecture on TCM

- Two academic symposiums on classical TCM prescriptions were jointly held with China Association of Chinese Medicine and Shenzhen Health Management Association to disseminate knowledge related to the history of vintage prescriptions, philosophy of TCM, herb ratios and application in modern times.

Health Lecture Series "Care for the Menopausal and Listen to Her"

- Conduct a live broadcast with the theme of "Care for the Menopausal and Listen to Her", which was jointly sponsored by the official media CHINA WOMEN'S NEWS and famous experts. This activity called the general public to properly treat menopause and care for the physical and mental health of women in menopause.

Spread Knowledge of COVID-19 Booster Shots

- Livzon made a promotion video for V-01 vaccine, introducing the principles of viral pathogenesis and the basic concepts, safety and efficacy of the "Recombinant SARS-Cov-2 Fusion Protein Vaccine".



Public welfare activity: "Care for the Menopausal and Listen to Her"



Publicity poster of "Respiratory Experts' Views"

Case



Joincare visited patients with mental health challenges in “Songping Cabin”

On 14 July 2022, we participated in the theme activity of “Caring from NPC Deputies and Enterprises in Songpingshan”, held by the liaison station of NPC Deputies in Songpingshan. This activity aims to support people with mental disorders through “Songping Cabin”. “Songping Cabin” is a community service station which provides a platform for people with mental disorders to be socially connected for their social competence improvement. During the activity, we learned more about people with mental disorders, and we bought the paintings of patients to express our support.



Purchase paintings to support patients with mental health challenges

When fighting against the pandemic, we undertook our social responsibilities as a pharmaceutical company and provided material support for front-line personnel, medical workers and volunteers. We also organised our volunteers to support pandemic prevention on the front line.



Express gratitude to Zhaoshang Subdistrict Office for fighting against the pandemic



Express gratitude to Nanyou Community for fighting against the pandemic



Express gratitude to Epidemiological Investigation Centre for fighting against the pandemic



Express gratitude to Songpingshan Community for fighting against the pandemic

9.2.3 Protection of Natural Ecosystems

Joincare aspires to a harmonious and healthy nature. To help create a healthier urban ecology and better protect the environment, we made charitable donations through the Tencent charitable donation platform in 2022. We participated in the project “Habitat Garden - Building a Home for TAs in the City” to provide food, water and habitats for the wild animals in the city. This project aims to improve the ecological quality in the city and strengthen the human-nature relationship.

We also participated in the project “Peach Blossom Garden in Jiulong Peak - Protect the Most Beautiful Habitat in East China” to guard the “Natural Museum” and “Biological Species Resource Library”. This project aims to protect Jiulong Peak’s ecosystems and endangered wildlife and support inspectors in dangerous field environments with scarce equipment and high workloads, thus promoting the harmonious coexistence of humans and nature. This year, we donated RMB400,000 via the Tencent charitable donation platform. Meanwhile, our employees are also encouraged to participate in charitable activities. We conduct internal fundraising campaigns and join hands with our employees in the cause of public welfare through matching cash donations.



Charitable donation project of Joincare

10

Data List of Key Performance Indicators

CSR Indicator	Unit	2020	2021	2022
1.Environmental¹				
1.1 Emissions²				
Waste Water Emission	Tonne	8,845,919.0	10,485,061.5	11,110,513.9
Chemical Oxygen Demand (COD _{Cr})	Tonne	797.0	984.4	1,029.4
Ammonia Nitrogen	Tonne	72.1	113.6	101.1
VOCs	Tonne	/	72.3	30.5
NO _x	Tonne	87.6	139.9	105.9
SO ₂	Tonne	47.8	48.7	32.9
Particulates	Tonne	16.4	27.2	17.2
Non-hazardous Industrial Waste	Tonne	75,891.9	145,628.8	151,323.1
Hazardous Wastes	Tonne	4,273.7	5,791.5	6,410.0
Pharmaceutical Wastes and Medicine Wastes	Tonne	2,251.4	3,034.9	3,352.9
Other Hazardous Wastes	Tonne	2,022.3	2,756.6	3,057.1
Greenhouse Gas Emissions				
Total Greenhouse Gas Emissions	CO ₂ equivalent (in tonnes)	1,080,215.3	1,005,579.8	1,037,613.5
Intensity of Greenhouse Gas Emissions ³	CO ₂ equivalent (in tonnes) /RMB 10,000	/	/	0.52
Direct Greenhouse Gas Emissions (Scope 1) ⁴	CO ₂ equivalent (in tonnes)	35,758.6	201,234.8	202,473.9
Indirect Greenhouse Gas Emissions (Scope 2) ⁵	CO ₂ equivalent (in tonnes)	1,044,456.8	804,345.0	835,139.6

¹ Scope of environmental data disclosure: the manufacturing enterprises of Joincare, all manufacturing enterprises of Livzon.

² Disclosure of major pollutants/emissions and related emission data according to the production characteristics of enterprises.

³ The intensity in 2022 was calculated based on RMB 10,000 of output value.

⁴ Scope 1 greenhouse gas ("GHG") emissions are mainly derived from direct GHG emissions from the consumption of fossil fuels in the company's operations/production processes (e.g. gasoline, diesel, natural gas, etc.), and the formula used is: CO₂ emissions from fossil fuel combustion = fuel consumption × low level heat generation × carbon content per unit of calorific value × fuel carbon oxidation rate × 44/12. The emission factor and the calculation refer to the 《工业其他行业企业温室气体排放核算方法与报告指南（试行）》.

⁵ Scope 2 GHG emissions are mainly derived from indirect GHG emissions from purchased electricity and steam consumed by the company's operations/production processes, calculated with reference to the document "Appendix 2: Reporting Guidance on Environmental KPIs" of the Hong Kong Stock Exchange. The power emission factor for 2022 adopts the grid emission factor 0.5810 tCO₂/MWh in the "Corporate Greenhouse Gas Emission Accounting Methodology and Reporting Guide for Power Generation Facilities (企业温室气体排放核算方法与报告指南发电设施)" (Huan Ban Qi Hou [2021] No. 9).

CSR Indicator	Unit	2020	2021	2022
1.2 Use of Resource				
Total Energy Consumption				
Gasoline	Liter	378,879.1	396,363.6	251,528.5
Diesel	Liter	381,862.6	386,903.8	196,825.5
Coal	Tonne	4,336.5	86,291.0	88,244.2
Natural Gas	10,000 cubic meters	1,150.7	949.6	858.3
Liquefied petroleum gas	Tonne	/	7.85	6.77
Purchased Steam	Tonne	1,095,289.9	880,288.5	932,444.1
Purchased Electricity	MWh	805,990	926,560	959,455
Direct Energy Consumption	MWh	/	/	611,129.2
Indirect Energy Consumption	MWh	/	/	1,682,747.3
Renewable Energy Consumption	MWh	/	/	1,320.8
Non-renewable Energy Consumption	MWh	/	/	2,292,555.7
Total Energy Consumption	MWh	/	/	2,293,876.5
Intensity of Total Energy Consumption ³	MWh/RMB 10,000	/	/	1.1
Water Consumption				
Total Water Consumption	10,000 tonnes	1,165.1	1,361.3	1,300.5
Intensity of Total Water Consumption	Tonne/RMB 10,000	/	/	6.48
Recycled Water Volume	10,000 tonnes	/	/	13.8
Packaging Material Used for Finished Products				
Total Packaging Material Used	Tonne	/	/	14,570.55
Intensity of Packaging Material Used ³	Tonne/RMB 10,000	/	/	0.01

CSR Indicator		Unit	2020	2021	2022
2. Social Responsibility					
2.1 Employment					
Number of Employees: By Gender, Type of Employment, Age Group and Geographical Region					
Number of Employees		Person	12,466	13,234	14,116
Gender	Male	Person	6,689	7,044	7,531
	Female	Person	5,777	61,90	6,585
Age	30 and below	Person	4,494	4,393	5,026
	31-49 Years Old	Person	7,300	8,042	8,204
	50 and above	Person	672	799	886
Type of Employment	General Manager Level and Above	Person	/	/	104
	Director Level	Person	/	/	233
	Manager Level	Person	/	/	1,204
	Other Employees	Person	/	/	12,575
Geographical Region	Mainland China	Person	12,448	13,218	14,097
	Hong Kong, Macao and Taiwan, China	Person	6	4	6
	Foreigners	Person	12	12	13
Diversity of Employees					
Share of Women in Executive Positions		%	/	/	26.7
Share of Women in Management Positions ⁶		%	/	/	34.2
Share of Women in Management Positions in Revenue-generating Functions		%	/	/	28.8
Share of Women in STEM-related Positions		%	/	/	55.5
Number of Ethnic Minority Employees ⁷		Person	/	/	784
Hiring					
Total Number of New Employee Hires		Person	/	/	4,351
Number of New Employee Hires by Gender and Age Group					
Gender	Male	Person	/	/	2,326
	Female	Person	/	/	2,025
Age	30 and below	Person	/	/	2,664
	31-49	Person	/	/	1,664
	50 and above	Person	/	/	23
Percentage of Open Positions Filled by Internal Candidates (Internal Hires)		%	/	/	4.0

⁶ Management positions refer to the manager level and above.

⁷ The largest three ethnic minorities of Joincare's workforce are Hui (222 people), Zhuang (188 people) and Miao (59 people). The percentage of ethnic minority employees in the management positions is 3.18%.

CSR Indicator		Unit	2020	2021	2022
Percentage of Internal Hires by Gender and Age Group					
Gender	Male	%	/	/	54.10
	Female	%	/	/	45.90
Age	30 and below	%	/	/	27.87
	31-49	%	/	/	70.49
	50 and above	%	/	/	1.64
Average Years Employed by the Company					
Average Years Employed by the Company for Male Employees		Year/Person	/	/	8.2
Average Years Employed by the Company for Female Employees		Year/Person	/	/	6.4
Employee Turnover Rate					
Overall Employee Turnover Rate		%	17	16	17
Employee Turnover Rate by Gender, Age Group					
Gender	Male	%	/	/	10
	Female	%	/	/	11
Age	30 and below	%	/	/	13
	31-49	%	/	/	9
	50 and above	%	/	/	6
Employee Engagement Survey					
Employee engagement		%	/	/	87
2.2 Health and Safety					
Number of Work-related Injuries					
Number of Work-related Fatalities for Employees		Person	0	0	0
Days Lost due to Work-related Injuries - Employees		Day	197	133	214
Lost-Time Injury Frequency Rate (LTIFR) - Employees		Number of Injuries/ Million Hours of Works	/	/	0.25
Number of Work-related Fatalities for Contractors		Person	/	/	0
Days Lost due to Work-related Injuries - Contractors		Day	/	/	0
Lost-Time Injury Frequency Rate (LTIFR) - Contractors		Number of Injuries/ Million Hours of Works	/	/	0
2.3 Training and Development					
Total Training Hours for Employees		Hour	1,219,872	1,027,812	895,409
Training Hours for Male Staff		Hour	664,782	561,602	474,502
Training Hours for Female Staff		Hour	555,090	466,210	420,908

CSR Indicator		Unit	2020	2021	2022
Average Training Hours per Employee		Hour/Person	97.9	77.7	63.4
Average Training Hours per Employee by Gender and Age Group					
Gender	Male	Hour/Person	99.4	79.7	63.0
	Female	Hour/Person	96.1	75.3	63.9
Age	30 and below	Hour/Person	/	/	63.3
	31-49	Hour/Person	/	/	63.7
	50 and above	Hour/Person	/	/	61.6
Average Amount Spent per Employee on Training		RMB/Person	/	/	323.7
2.4 Product Responsibility					
Percentage of Total Products Sold or Shipped Subject to Recalls for Safety and Health Reasons					
Percentage of Such Products to Total Products Sold and/or Shipped		%	/	/	0
Number of Products and Service Related Complaints Received					
Product-related Complaints		Time	/	/	92
Medication queries		Time	/	/	20
2.5 Anti-corruption					
Number of concluded legal cases regarding corrupt practices brought against the Company or its employees during the reporting period and the outcomes of the cases					
Number of Brought and Concluded Legal Cases Regarding Corrupt Practices		Case	/	/	0
Anti-corruption Training Provided to Directors and Staff					
Number of Directors Attended Anti-corruption Training		Person	/	/	9
Total Number of Hours of Anti-corruption Training Provided to Directors		Hour	/	/	99
Number of Employees Attended Anti-corruption Training		Person	/	/	14,116
Total Number of Hours of Anti-corruption Training Provided to Employees		Hour	/	/	27,533.5
2.6 Public Welfare Projects					
Resource Contributed to the Focus Areas					
Financial Donation		RMB 10,000	1,505.5	2,045.6	569.9
Value of Donated Goods		RMB 10,000	710.8	864.5	641.8