



We strengthen the individual functions of our operation and optimize the whole by using digital and cutting-edge technologies and refining our Kampo value chain, focusing on naturally available ingredients.

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(Co-Chief Operating Officer)

Entire Crude Drug Supply Chain Optimized with New AI-Assisted System

The core characteristic and greatest strength of Tsumura Group operations is our supply chain, with naturally available crude drugs upstream. This is a risk as well, because natural products tend to have unevenly distributed component content and are susceptible to external impurities, requiring extreme care in cultivation and processing. To reduce these risks, the Tsumura Group has instituted a wide range of measures and maintains a vast fund of expertise, advantages that none of our competitors can emulate. Our original expertise, including methods for contracting with production groups, original safety standards, cultivation and processing technologies resulting from years of research, and numerous diversified production areas and countries to hedge weather and other risks, is accrued as both human and social capital, the primary sources of our competitive edge.

In recent years, however, our business environment has changed enough to make projecting future conditions more difficult, requiring an enhanced Kampo value chain that better suits the times. For us, the theme that most needs immediate attention is promoting total optimization of our operations with wider margins of capacity. In the process of producing Kampo formulations, we have to

make qualitatively consistent products, maintaining variations in component contents at acceptable levels for pharmaceuticals with clinically reproducible effects. We previously depended heavily on employees with many years of experience to find the best solutions and plan ingredient blends and combinations. Unfortunately, there are limits to individual human capabilities, so we generally planned production only two to four weeks ahead. In our regular operations, we based our decisions mainly on inventory levels at our Ishioka Center, where we store raw material crude drugs. This allowed us only local optimization opportunities.

This changed in 2023, when we introduced a new planning system for compounding crude drugs that made data on all of our ingredient inventories, including in China, available across the Group, and allowed for automated planning of optimally efficient drug compounding twelve months ahead. This AI-assisted system prevents stagnant inventories of crude drugs that won't be used immediately, recommends plans to select and process high-priority crude drugs, and promises us a significant boost in productivity. It also extends down to the cultivation level,

making possible early planning for planting low-supply crude drugs. It clearly conveys our production and storage capacity needs for a given day, helping us better manage risk in upstream processes. I've designated a series of

initiatives under this system as value chain reforms, working to optimize our work processes across the board. It's a major step toward our desired future, and a new skill for the Tsumura Group.

Higher Expertise for Pharmaceuticals Made from Natural Ingredients Applied in the China Business As Well

Going forward, we will enhance our processes for R&D, plant cultivation, drug formulation and sales, further strengthening our value chain focused on natural ingredients by adding up the value created in each process. The traditional Chinese medicinal products business in China, which we are preparing to enter, shares many factors with the Kampo formulation business we currently operate in Japan, and it may be easy for the same value chain to generate value, allowing us to establish a strong competitive advantage there. So in building partnerships with local firms, we have to understand our core competencies in the China business first, then deepen our mutual relationships. To spread the value of pharmaceuticals from natural ingredients in global markets, it's essential that we comply with each country's regulations and legal system. We consider it an unprecedented step forward, for us and those who assess our pharmaceuticals as well, to undertake clinical testing in the US, for example. By embracing this sort of opportunity to build mutual understanding, I believe we can make steady, gradual progress.

The Tsumura Group is working to double labor productivity, not just to reduce costs, but to ensure stable supply as the working population continues to shrink going forward as well. Understanding of those needs is

deepening among our employees, and our next medium-term management plan includes ideas for visualizing ideal work styles in the near future and formulating action plans to achieve our goals.

We are leading the industry and moving forward on initiatives to address sustainability issues, including analysis following the recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD). We promote resource recycling like composting and making fuels from the large amounts of crude drug residue we generate. In addition to making better use of waste, we are working with our partners to introduce environmentally friendly packaging materials suitable for Kampo formulations, which must be kept dry, and considering ways to implement joint development with partners in other industries to come up with more solutions that are easy on the environment. To achieve the goal of cutting our greenhouse gas emissions in half by 2031, we are discussing ways to reliably secure low-carbon, low-cost energy. The Tsumura Group's business has the potential to increase both our corporate value and the value we share with society. I proudly say that ours is a highly sustainable and environmentally friendly business model, and we are working to develop new technologies and improve productivity in all our internal organizations to be a truly sustainable corporation.

