



# BeyondSpring CEO Makes 3 Big Predictions for Biotech's Future in 20 Years

By [Alex Keown](#)

The next 20 years will bring innovations to the biotech industry, including increased penetration into the Chinese markets, approval of more targeted cancer therapies and a focus on cancer prevention, **Lan Huang**, the chief executive officer of [BeyondSpring](#) predicted in a new paper.

Huang, a biotech entrepreneur with a 20-year track record, said she made her predictions to help companies lay the groundwork in preparation for the innovations that will undoubtedly occur over the next two decades. In an exclusive interview with **BioSpace**, Huang shared her thoughts and insights on her predictions and how they could come true.

## Targeted indications

**Prediction 1:** "Every new drug will be approved in a very targeted scope of indication when the drug is proven to be safe."

After the human genome was sequenced in 1997 and a subsequent 20 years of exploration, Huang said scientists understand the function of some genes and their mutations and the cancer pathways. Based on that, Huang said researchers can better develop therapies to target those mutations, particularly in oncology, she said, pointing to the various mutations in breast cancer and lung cancer types. If a drug is deemed safe in early studies and shows preliminary efficacies, Huang said researchers will be able to find a targeted group of patients for this drug.

"When we work on a smaller target population, the drug has a better approval rate," Huang said. "The drugs work better for subgroups than the larger groups of patients. If you know a target population and a drug is developed for that population, you have a much higher approval rate."

Because there's a higher approval rate, Huang called it a win-win situation for both the pharma industry and investors. Taking a targeted approach to drug development yields more positive results, she said. Also, Huang said a targeted drug route should also improve the costs of clinical trials due to smaller patient populations and could also cut down on the amount of time a trial takes.

"When you have cost savings for development, the drug may not be so expensive to recoup the investment," she said.

## Chinese market growth

**Prediction 2:** Biotech companies will increasingly make use of China's clinical resources to lower time and cost in drug development.

China is a vast market resource when it comes to oncology drugs. China has one-third of new cancer patients in the world. There are about 200,000 lung cancer patients diagnosed in the U.S. each year, but in China, there are about 700,000 new patients, which is a large patient pool, she said. Not only is there a large patient pool, but a higher percentage of patients enter clinical trials in China, Huang said.

Another benefit of moving into the Chinese market is the higher urban concentration of patients. In the United States, the population is spread out across the country, but Huang said more and more people in China are leaving rural areas and seeking new opportunities in the cities, which is where the research hospitals are located and will make recruitment for clinical research much easier. This will eventually contribute to lower drug costs for patients, creating a win-win for everyone, she said. Conducting clinical trials in China is also less expensive, she said. Patient cost in the U.S. is about \$100,000, but in China, it's about one-third of that, Huang said.

"China is the second largest pharmaceutical market in the world. The sooner to get in the market in China, the more money you make," Huang said.

If companies do look to China, Huang said it could make sense for western companies to partner with Chinese biotechs. Such a partnership can help drugs get to the clinic faster and through regulatory hurdles faster. Taking a local strategy can make the best out of things, she said.

## Drug development to prevention

**Prediction 3:** Biotech companies will shift from cancer drug development to cancer prevention. While cancer is harder to prevent rather than treat, the social impact is much greater for cancer prevention.

"This is the holy grail of cancer research. It's much harder to prevent a disease than to treat a disease," Huang said. "This is a tall order, but it's the hope."

For prevention, Huang said it's all about catching a disease early enough so it could be beaten back into an effective cure. Huang said there are numerous examples of breast cancer patients being caught early enough to increase survivability odds.

While it's been done with breast cancer, Huang said she hopes to see other cancer types prevented. However, she said it could take the full 20 years she predicted for the technology to improve enough for this to be a reality.

"If you can prevent cancer, this is beneficial to everybody. You don't have to go to the hospital, you don't have to rely on the insurance company," she said. "Scientific research has come so far. We're in a renaissance, seeing breakthroughs in our field. It's not far away. My predictions are not science fiction. This is what we want to do as scientists."

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