

## INDUSTRY OVERVIEW

*This section contains information relating to our markets. Certain facts, statistics and data presented in this section and elsewhere in this document have been derived, in part, from various publicly available government and official sources, industry statistics and publications. We also commissioned an independent industry consultant, China Insights Consultancy, to prepare an industry research report (“CIC Report”) upon which this Industry Overview section is based. Unless otherwise indicated, all historical and forecast statistical information, including trends, sales, market share and growth, is from the CIC Report.*

### OVERVIEW OF NEUROVASCULAR DISEASES

#### Overview of Neurovascular Diseases

Neurovascular diseases refer to disorders where an area of the brain is temporarily or permanently affected by bleeding or restricted blood flow. Restrictions in blood flow may occur from vessel narrowing, clot formation, blockage or artery rupture.

There are three major categories of neurovascular diseases: hemorrhagic stroke, cerebral atherosclerotic stenosis and acute ischemic stroke (AIS). Hemorrhagic stroke happens when an artery in the brain leaks or ruptures. Cerebral atherosclerotic stenosis occurs when blood flow to the brain is restricted by the narrowing of an artery due to buildup of fatty deposits inside the vessel. AIS occurs when a vessel supplying blood to the brain is obstructed.

Neurovascular diseases have a high incidence rate, prevalence rate and are the leading cause of death in China. Stroke incidence and mortality rate are high in China. According to CIC, China had the largest number of stroke patients in the world, including an incidence of 0.8 million hemorrhagic stroke patients, 0.5 million transient ischemic attack (a condition commonly associated with cerebral atherosclerotic stenosis) patients and 1.7 million AIS patients in 2020.

#### *Hemorrhagic Stroke*

A hemorrhagic stroke is bleeding due to rupture or leakage of brain arteries. Bleeding can occur either within the brain or between the brain and the skull. Hemorrhagic strokes are divided into two categories depending on the site and cause of the bleeding. Intracerebral hemorrhage (ICH) occurs when the bleeding occurs inside of the brain. In subarachnoid hemorrhage (SAH), the bleeding occurs between the brain and the membranes that cover it.

#### *Cerebral Atherosclerotic Stenosis*

Cerebral atherosclerotic stenosis occurs when blood flow to the brain is restricted by a narrowing of an artery due to buildup of fatty deposits (also known as plaque) inside the vessel. Cerebral atherosclerotic stenosis can be further divided into intracranial stenosis, vertebral artery stenosis and carotid artery stenosis. More than 20% of ischemic stroke cases are related to cerebral atherosclerotic stenosis. Cerebral atherosclerotic stenosis is also a major etiologic cause of transient ischemic attack.

#### *Acute ischemic stroke (AIS)*

Acute ischemic stroke is characterized by a sudden loss of blood circulation to an area in the brain, resulting in corresponding loss of neurological function. AIS occurs when blood flow through a

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brain artery is blocked by a clot, a mass of thickened blood. Typical cause of AIS is intracranial atherosclerosis.

### Treatments for Neurovascular Disease

Intravenous thrombolysis (IVT), open neurosurgery and neuro-interventional procedures are the main treatments for neurovascular diseases. IVT is a method using thrombolytic drugs to treat thrombosis and is typically given up to six hours after the onset of symptoms. Open neurosurgery is the traditional type of surgery in which an incision is made to the skull, often referred to as a craniotomy. Through this incision, physicians use conventional surgical techniques to repair lesions and subarachnoid disorders. Open neurosurgeries are usually used for hemorrhagic stroke caused by vascular malformations or acute bleeding.

Neuro-interventional procedures are minimally invasive in nature and are used to treat neurovascular diseases based on radiology and advanced image-guidance technology. Neuro-interventional procedures have a number of advantages as compared with IVT treatment and open neurosurgery. First, neuro-interventional procedures allow for a relatively long treatment time window. Also, drugs can be directly delivered to the lesions in proper dosage through balloons or stents, reducing side effects for patients as compared with oral administration. The minimally invasive nature of neuro-intervention reduces the risk of postoperative infections and enables patients to recover quicker after the procedure. Lastly, for patients that are not eligible for IVT due to conditions such as large aneurysms, history of intracranial hemorrhage or recent incidence of stroke, neuro-interventional procedures provide a crucial alternative.

The following table sets forth the major types of neuro-interventional procedures for hemorrhagic stroke, cerebral atherosclerotic stenosis and AIS. See respective sections below for details.

for hemorrhagic stroke			for cerebral atherosclerotic stenosis		for AIS	
<p><b>1 Aneurysm coiling</b></p> <ul style="list-style-type: none"> <li>Coil embolization for aneurysm in hemorrhagic stroke treats an aneurysm by filling it with materials that close off the sac to reduce the risk of bleeding.</li> </ul>	<p><b>2 Flow diversion</b></p> <ul style="list-style-type: none"> <li>Flow diverting stents aim to decrease blood flow within the aneurysm and redirect the blood to the parent artery. It also promotes endothelial tissue formation along the surface of the stents. Flow diversion reduces the recurrence rate effectively and is especially ideal for large or irregular aneurysm.</li> </ul>	<p><b>3 Stent graft</b></p> <ul style="list-style-type: none"> <li>The stent graft is a tube made of a thin metal mesh covered with a thin polyester fabric used to prevent blood flows from entering the aneurysm, thus reducing the risk of subsequent stroke.</li> </ul>	<p><b>4 Stent angioplasty</b></p> <ul style="list-style-type: none"> <li>Stent angioplasty is a procedure that uses a stent to compress the plaque and widens the lumen of the artery. Drug-eluting stent has a polymer coating over mesh that emits an anti-proliferative drug over time to reduce the likelihood of restenosis.</li> </ul>	<p><b>5 Balloon angioplasty</b></p> <ul style="list-style-type: none"> <li>Drug-coated balloon (DCB) uses a catheter with a balloon covered with anti-proliferative drug which is released to the vessel wall after inflation of the balloon.</li> </ul>	<p><b>6 Stent retrieving thrombectomy</b></p> <ul style="list-style-type: none"> <li>During stent retrieving thrombectomy, the stent retriever deploys within the clot to immediately restore blood flow, after which the mesh of stent retriever embedded within the clot catches and retrieves the clot.</li> </ul>	<p><b>7 Aspiration thrombectomy</b></p> <ul style="list-style-type: none"> <li>Aspiration thrombectomy is a kind of vessel interventional therapy adopting the principle of negative pressure to suck out the thrombus through an aspiration catheter.</li> </ul>

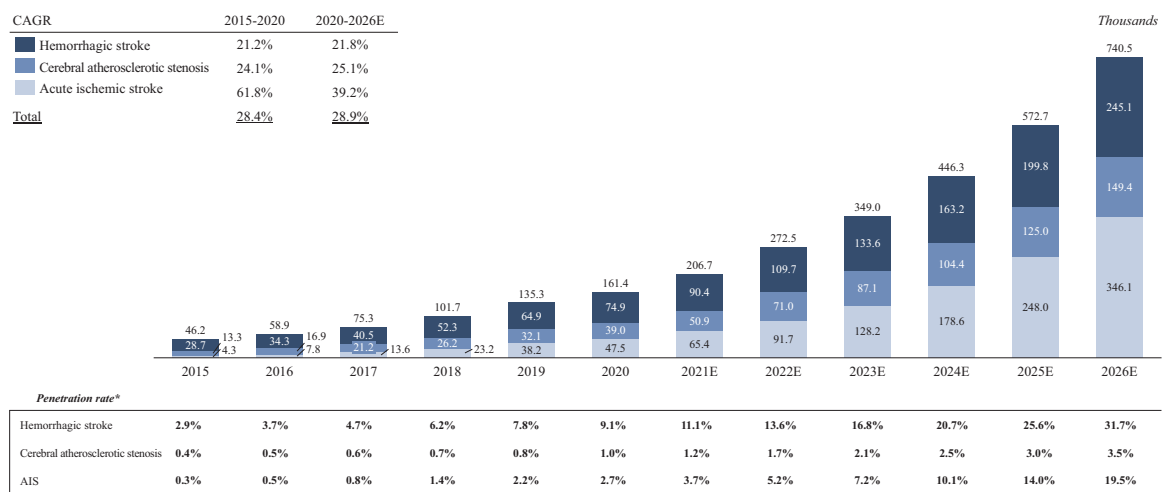
*Source: China Insights Consultancy*

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### CHINA NEURO-INTERVENTIONAL MEDICAL DEVICE MARKET

The number of neuro-interventional procedures in China increased from approximately 46,200 in 2015 to 161,400 in 2020 at a CAGR of 28.4% and is estimated to further increase to approximately 740,500 in 2026, at a CAGR of 28.9% from 2020 to 2026. Among the three types of neuro-interventional procedures, namely, procedures for hemorrhagic stroke, cerebral atherosclerosis and AIS, procedures for hemorrhagic stroke are the most prevalent in China at present and represented approximately 46.4% of all neuro-interventional procedures in terms of number of procedures in 2020. The chart below sets forth the number of neuro-interventional procedures in China:

**Number of neuro-interventional procedures and penetration rate in China, by type of diseases, 2015-2026E**



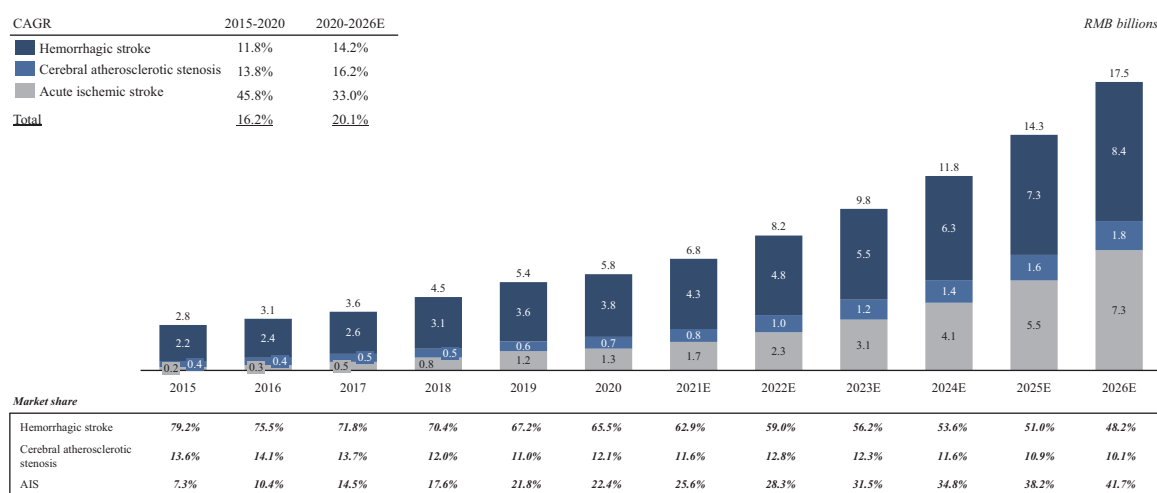
Note: \*The penetration rate is measured by the number of procedures as a percentage of the number of patients eligible for such procedures.

Source: China Insights Consultancy

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The market size of China’s neuro-interventional medical device market increased from RMB2.8 billion in 2015 to RMB5.8 billion in 2020 at a CAGR of 16.2% and is expected to further increase to RMB17.5 billion in 2026 at a CAGR of 20.1% from 2020 to 2026. Medical devices for hemorrhagic stroke is the sub-market with the largest market size in China, representing 65.5% of the China market size for neuro-interventional medical devices in 2020. The market size for hemorrhagic stroke medical devices reached RMB3.8 billion in 2020 and is expected to grow steadily and reach RMB8.4 billion in 2026. Medical devices for AIS represent the sub-market with the highest growth rate in China, with a CAGR of 45.8% between 2015 and 2020 and an estimated CAGR of 33.0% between 2020 and 2026. The chart below sets forth the market size for neuro-interventional medical devices in China:

**Market size of China neuro-interventional medical device market, by type of disease, 2015-2026E**



Source: China Insights Consultancy

Currently, the penetration rate for neuro-interventional procedures is relatively low. The penetration rates for hemorrhagic stroke, cerebral atherosclerosis and AIS procedures in China were 9.1%, 1.0% and 2.7% in 2020, respectively. Such low penetration rates were primarily due to the time-sensitivity, high costs and lack of acceptance of neuro-interventional procedures in China. Driven by the large patient population, the greater availability of Chinese-developed neuro-interventional medical devices, the increasing acceptance of such procedures, the penetration rates for hemorrhagic stroke, cerebral atherosclerotic stenosis and AIS procedures in China are expected to increase to 31.7%, 3.5% and 19.5% in 2026, respectively, according to CIC.

The development of the China neuro-interventional medical device market may face the following challenges. First, given the complexity of neuro-interventional procedures, physicians capable of performing such procedures are limited. According to CIC, about 5,000 doctors performed neuro-interventional procedures in China in 2020. Second, the geographic coverage of stroke treatment centers, especially those in lower-tier cities, needs to be further expanded given the time-sensitivity of treating neurovascular diseases. Third, the R&D of neuro-interventional medical devices, as well as their registration and commercialization, require heavy capital investment. Performing clinical trials, upgrading and finetuning the devices, establishing manufacturing facilities for mass production and carrying out marketing initiatives all demand substantial investments, and it takes time

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for neuro-interventional medical devices companies to achieve profitability for a new product. Fourth, regulations on neuro-interventional medical devices in China are strict. Product candidates must demonstrate satisfactory safety and efficacy clinical trial results in order to be approved by the NMPA unless the clinical trial is specifically waived. As a result, the development and registration of neuro-interventional medical devices may take a number of years. After obtaining registration approvals, medical device companies also need to obtain manufacturing licenses and maintain strict compliance with GMP requirements and various other regulations in China. Lastly, patient affordability and acceptance for neuro-interventional procedures need to be further enhanced, which require more in-depth patient education and stronger regulatory support.

### Growth Drivers and Future Trends

We believe the rapid growth of China’s neuro-interventional medical device market has been and will continue to be driven by the following factors:

*Increasing prevalence of neurovascular diseases and proven efficacy of neuro-interventional procedures.* Neurovascular diseases are age-related with a higher prevalence for the elderly. Considering the aging population in China, it is expected that the number of patients eligible for neurovascular diseases will continue increasing in the future. Meanwhile, the efficacy of neuro-interventional procedures has been proved by various empirical studies, and an increasing number of neuro-interventional procedures have been established as standard treatments. These academic advances further facilitate the adoption and acceptance of neuro-interventional procedures in clinical practice.

*Increasing number of hospitals and physicians capable of neuro-interventional procedures.* Given their high complexity, neuro-interventional procedures are currently performed in a limited number of hospitals. According to CIC, in 2020, there were about 2,200 hospitals in China that had performed neuro-interventional procedures, among which over 1,200 hospitals had performed neuro-interventional procedures with our products. The total number of hospitals that have performed neuro-interventional procedures in China is expected to reach 3,000 hospitals in 2026, according to CIC. The treatment for many neurovascular diseases is highly time-sensitive, and in particular, the best treatment time for AIS is four to six hours since symptom onset. Therefore, the increase in the number of hospitals capable of performing neuro-interventional procedures, especially hospitals in lower-tier cities where the medical service network for neurovascular diseases is less developed, is critical for meeting the medical demands in China. Along with the increase in hospitals, aspiring physicians will have greater access to training and education in this medical specialty, which in turn, further develops the treatment of neurovascular diseases in these regions.

*Development of Chinese-developed neuro-interventional medical devices.* An increasing number of Chinese-developed neuro-interventional medical devices have been developed and commercialized. Currently, domestic developers only gained a market share (in terms of sales volume) of approximately 11% of China’s neuro-interventional medical device market in 2020. Domestic products usually have more diversified models, and therefore are better able to accommodate demands for products in different sizes or specifications. Domestic neuro-interventional medical devices are generally more affordable than imported neuro-interventional medical devices. Domestic neuro-interventional medical devices also enjoy greater medical insurance coverage than imported neuro-interventional medical devices in areas such as Shanghai and certain cities in Jiangsu, Anhui and

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Yunnan provinces. For example, according to CIC, in Shanghai, the medical insurance coverage for domestic neuro-interventional medical devices is 80%, whereas the coverage for imported neuro-interventional medical devices is 70%, pursuant to Shanghai medical insurance regulations promulgated in 2019. Domestic developers are expected to obtain a significantly higher market share (in terms of sales volume) in the future, reaching approximately 32% in 2026, according to CIC. Currently, many Chinese-developed neuro-interventional medical devices are in the clinical trial stage or registration stage. Once they are approved, the availability of Chinese-developed neuro-interventional medical devices will increase significantly, providing physicians with more comprehensive tools for a total solution for neurovascular diseases. Further, Chinese-developed neuro-interventional medical devices will gain greater growth opportunities as they are generally more cost efficient, enjoy greater medical insurance coverage and have more diversified models than those developed by international medical device companies.

*Favorable policies promoting treatments for stroke.* The PRC government implemented a series of favorable policies in relation to the treatment of neurovascular diseases. The PRC government started an initiative in 2017 which aimed to establish a 24/7 fully comprehensive stroke treatment system. The stroke treatment centers, based in hospitals of different levels, aim to allow stroke patients to receive treatment within one hour after the stroke onset, which is considered the gold standard. Currently, over 1,000 stroke centers have been established in China. These stroke treatment centers aim to provide timely treatment for patients with stroke attacks as well as to enhance the prevention of neurovascular diseases. These stroke treatment centers, particularly the local-level ones, also help educate and train local physicians and increase the acceptance of neuro-interventional procedures in lower-tier cities.

### Competitive Landscape

In terms of sales of neuro-interventional medical devices in 2020, the top five players in the neurovascular medical device market in China are Medtronic, Stryker, MicroVention, Johnson & Johnson and our Company, representing a total market share of approximately 91% in China in 2020, and among which our Company had a market share of approximately 4%, according to CIC. We are the only domestic developer among the top five players. Details of the other four players are set forth in the table below:

<u>Name</u>	<u>Background</u>	<u>Network coverage</u>	<u>Listing status</u>
Medtronic .....	Medtronic is a medical device company that generates revenues from four business segments, cardiac and vascular, minimally invasive therapies, restorative therapies and diabetes.	Global	NYSE
Stryker .....	Stryker is a medical device company that offers innovative products and services in medical and surgical, neurotechnology, orthopedics and spine that help improve patient and hospital outcomes.	Global	NYSE
MicroVention .....	MicroVention is a medical device company focusing on the creation and commercialization of innovative neuroendovascular technologies.	Global	TYO
Johnson & Johnson .....	Johnson & Johnson operates through three segments, consumer, pharmaceutical and medical devices. The medical devices segment offers a range of interventional products used in orthopedic, surgery, and vision fields.	Global	NYSE

*Source: China Insights Consultancy*

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Thanks to their continuous R&D efforts in developing and manufacturing neuro-interventional medical devices, Chinese developers have gained a rapidly growing market share in China. In 2020, there were approximately 15 Chinese developers for neuro-interventional medical devices, which represented approximately 7% of the total sales revenue by ex-factory price in China’s neuro-interventional medical device market in 2020. In 2020, our sales revenue (by ex-factory price) accounted for approximately 57% of the total sales revenue (by ex-factory price) of all Chinese developers for neuro-interventional medical devices in China, ranking the first among all Chinese developers, according to CIC. As of the Latest Practicable Date, there were 69 Chinese-developed neuro-interventional medical devices that had been commercialized, according to CIC.

### **THE CHINA HEMORRHAGIC STROKE NEURO-INTERVENTIONAL MEDICAL DEVICE MARKET**

A hemorrhagic stroke happens when an artery in the brain leaks or ruptures. Hemorrhagic stroke is most commonly caused by high blood pressure or intracranial aneurysms, which are balloon-like bulges in an artery that can stretch and burst. If an intracranial aneurysm ruptures, the blood floods around the brain tissue and it quickly becomes life-threatening. Therefore, intracranial aneurysms are known as “ticking time bombs in the head.” Even if an intracranial aneurysm remains unruptured, it still presses on brain tissues nearby and potentially can cause pain around the eye, change in vision or numbness of one side of the face. The incidence of hemorrhagic stroke in China was 0.8 million in 2020 and is estimated to remain at the same level in 2026.

#### **Treatment of Hemorrhagic Stroke**

Traditionally, the only available treatment for intracranial aneurysm was surgical clipping, which is an open neurosurgery that places a clip through an incision in the skull to seal off the aneurysm neck. In the last three decades, minimally invasive treatments for intracranial aneurysm have evolved tremendously, and various treatment options have been developed.

The first minimally invasive treatment was coil embolization which can be used in conjunction with stents as a way to keep coils in the aneurysm. Coil embolization prevents the aneurysm from further expanding and rupturing. Coil embolization assisting stents are especially helpful for aneurysms with wide necks or unusual shapes. The stent supports the coils and prevents them from migrating into the parent artery, the artery from which the aneurysm has developed, whilst at the same time encouraging packing density and suspension of blood flow or stasis in the aneurysm. Coil embolization can treat most types of aneurysms and there is a direct relationship between packing density and the success of occlusion.

A relatively new treatment is flow diversion. Flow diverting stent aims to decrease blood flow within the aneurysm and redirect the blood to the parent artery. It also promotes endothelial tissue formation along the surface of the stent, which subsequently closes off the aneurysm neck and permanently closes the aneurysm from the systemic blood circulation. Unlike coil embolization, flow diversion eliminates the need for entering the aneurysm sac. Therefore, it reduces the risk of intraoperative rupture. Flow-diverting stent is specifically indicated for large aneurysms (between 10 and 25 mm in diameter) or giant aneurysms (greater than 25 mm in diameter), which account for around 5% of all aneurysms. For large or giant aneurysms, flow diversion has a higher rate of success and lower recurrence rate compared to traditional treatments.

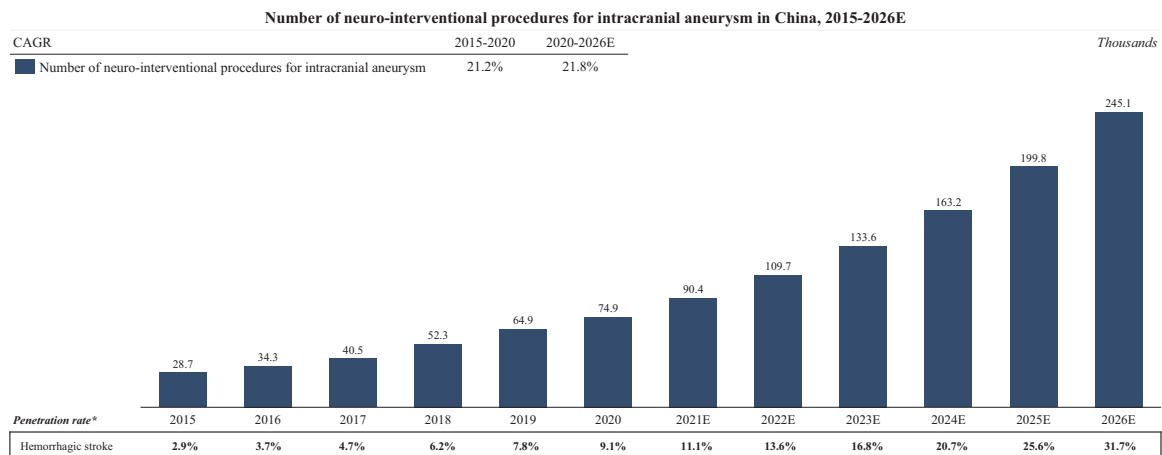
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Stent grafts are expandable stents covered by a membrane, which fit within the artery wall tightly and thereby prevent blood flow from entering the aneurysm. Stent grafts also provide viable solutions for complex neurovascular diseases, including dissecting aneurysms, blood blister-like aneurysms and pseudo-aneurysms, being rare types of aneurysms in intracranial arteries, as well as carotid-cavernous fistulae, an abnormal connection between the carotid artery and a large vein called the cavernous sinus. Stent grafts are able to limit the risk of procedure-related rupture of aneurysms and the related risk of substantial blood loss due to the lack of a vessel wall.

### Hemorrhagic Stroke Neuro-interventional Medical Device Market

The number of neuro-interventional procedures for intracranial aneurysm in China increased from approximately 28,700 in 2015 to 74,900 in 2020 and is estimated to further increase to approximately 245,100 in 2026, at a CAGR of 21.8% from 2020 to 2026. The penetration rate of hemorrhagic stroke neuro-interventional procedures in China, measured by the number of procedures as a percentage of the number of patients eligible for such procedures, is expected to increase from 9.1% in 2020 to 31.7% in 2026. The chart below sets forth the number of neuro-interventional procedures for intracranial aneurysm in China:

#### Number of neuro-interventional procedures for intracranial aneurysm in China, 2015-2026E



\*The penetration rate is measured by the number of procedures as a percentage of the number of patients eligible for such procedures.

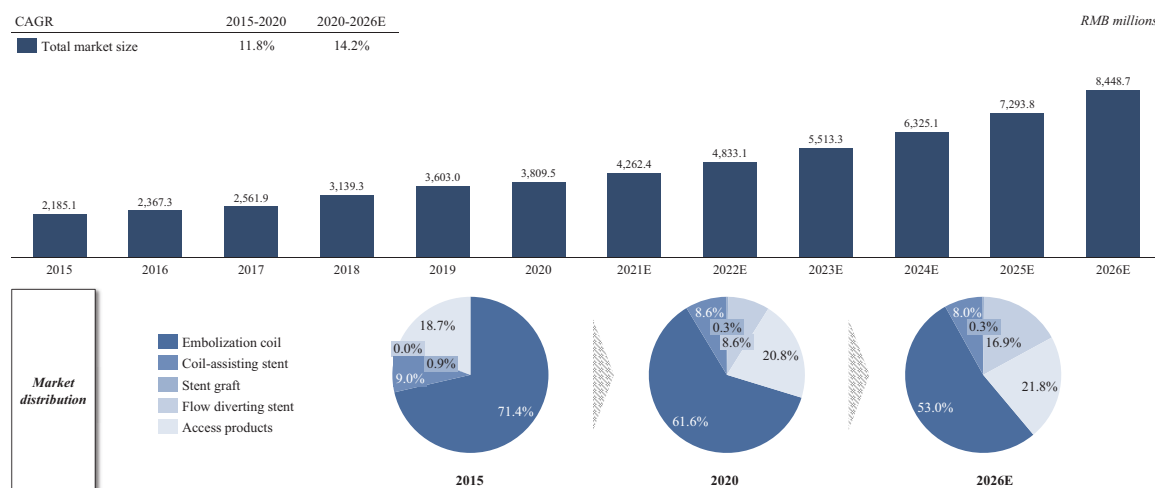
Source: China Insights Consultancy



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The market size for China’s hemorrhagic stroke neuro-interventional medical devices in terms of sales revenue by ex-factory price increased from RMB2.2 billion in 2015 to RMB3.8 billion in 2020 at a CAGR of 11.8% and is expected to further increase to RMB8.4 billion in 2030 at a CAGR of 14.2% from 2020 to 2026. The chart below sets forth the market size for hemorrhagic stroke neuro-interventional devices in China:

### Market size of neuro-interventional medical devices for intracranial aneurysm in China, 2015-2026E



Source: China Insights Consultancy

## Competitive Landscape

### Embolization Coils

As of the Latest Practicable Date, there were 38 intracranial coil embolization devices developed by a number of companies approved by the NMPA, as shown in the following table. *NUMEN* had a market share of approximately 0.7% in 2020 in China in terms of sales volume.

Company	Number of approved embolization coils
Medtronic	8
MicroVention	8
Johnson & Johnson	5
Stryker Neurovascular	5
Achieva Medical	3
Our Company	2
TJWY Medical	2
Wallaby Medical	2
SealMed	1
Zylox-Tonbridge Medical	1
Visee Medical	1
<b>Total</b>	<b>38</b>

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### *Coil Embolization Assisting Stent*

According to CIC, as of the Latest Practicable Date, there were seven coil embolization assisting stents approved by the NMPA. Details of such approved coil embolization assisting stents are set forth below. *Rebridge* is the first Chinese-developed full-visualization coil embolization assisting stent that entered the registrational clinical trial, according to CIC. The first patient enrollment for *Rebridge*'s registrational clinical trial was completed in January 2022.

<u>Product</u>	<u>Company</u>	<u>NMPA First Approval Time</u>	<u>Full Visualization</u>
ENTERPRISE Vascular Reconstruction Device and Delivery System	Johnson & Johnson	February 2017	No
Self-expanding Intracranial Stent	BALT EXTRUSION	February 2017	Yes
Neuroform EZ Stent System	Stryker Neurovascular	February 2017	No
LVIS Intraluminal Support Device	MicroVention	December 2017	Yes
ENTERPRISE 2 Vascular Reconstruction Device and Delivery System	Johnson & Johnson	September 2018	No
LVIS Jr. Intracranial Support Device	MicroVention	March 2019	Yes
Neuroform Atlas Stent System	Stryker Neurovascular	May 2020	No

### *Flow-diverting Stent*

As of the Latest Practicable Date, there were three flow-diverting stents approved by the NMPA. *Tubridge* obtained a market share of approximately 44% in 2020 in China in terms of sales volume. The following table sets forth the flow-diverting stents approved in China as of the Latest Practicable Date, according to CIC:

<u>Product</u>	<u>Company</u>	<u>NMPA First Approval Time</u>
Pipeline Flex Embolization Device	Medtronic	December 2017
<i>Tubridge</i>	Our Company	March 2018
Surpass Streamline Flow Diverter	Stryker Neurovascular	June 2020

### *Stent Graft*

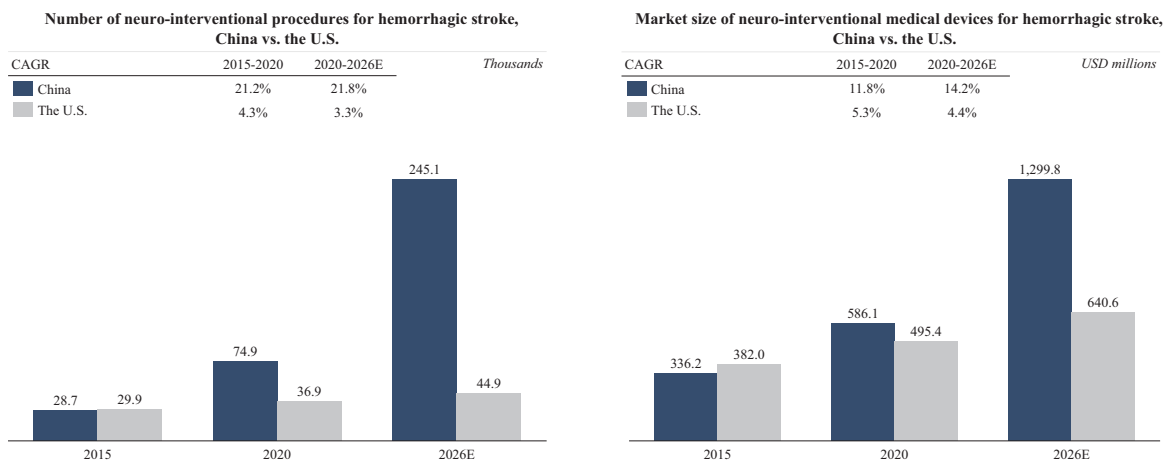
As of the Latest Practicable Date, our *Willis*, approved in February 2013, was the only intracranial stent graft approved by the NMPA in China. *Willis* had a market share of 100% in 2020 in China in terms of sales volume.

<u>Product</u>	<u>Company</u>	<u>NMPA First Approve Time</u>
<i>Willis</i>	Our Company	February 2013

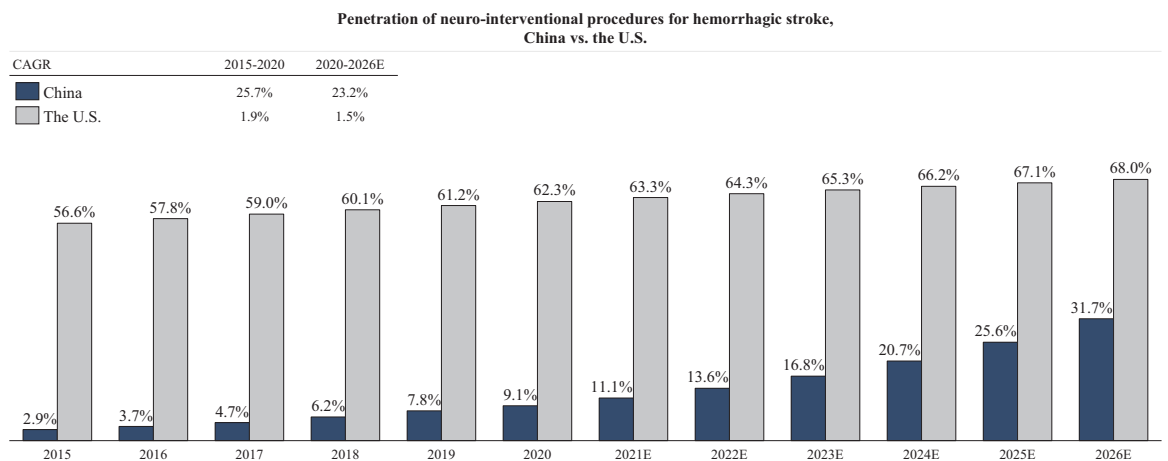
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### THE UNITED STATES HEMORRHAGIC STROKE NEURO-INTERVENTIONAL MEDICAL DEVICE MARKET

Global leading countries in neuro-interventional procedures mainly include the United States, Japan, Germany, Brazil, France, Spain and South Korea, among which the United States represents the largest national market globally. The market for hemorrhagic stroke neuro-interventional devices represents the largest sub-market for the global neuro-interventional devices market, according to CIC. The charts below set forth the number of procedures, market size and penetration rate of the United States as compared with China. Although the number of neuro-interventional procedures and market size of China have been growing rapidly at a rate significantly higher than that of the United States, the penetration rate of neuro-interventional procedures remained low in China due to its large patient population. Such discrepancy implies significant growth potential of the China market:



Source: China Insights Consultancy



Source: China Insights Consultancy

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### THE CHINA CEREBRAL ATHEROSCLEROTIC STENOSIS NEURO-INTERVENTIONAL MEDICAL DEVICE MARKET

Cerebral atherosclerotic stenosis occurs when blood flow to the brain is restricted by a narrowing of an artery due to plaque buildup inside the vessel. Cerebral atherosclerotic stenosis can be further divided into intracranial stenosis, vertebral artery stenosis and carotid artery stenosis. There are three ways in which cerebral atherosclerotic stenosis can develop into a stroke: (i) the plaque can grow larger, severely narrowing the artery and reducing blood flow to the brain and it can eventually completely block the artery; (ii) the plaque can roughen and deform the artery wall, causing blood clots to form and block blood flow to the brain; and (iii) the plaque can rupture and break away, traveling downstream to lodge in a smaller artery and block blood flow to the brain.

More than 20% of ischemic stroke cases are related to cerebral atherosclerotic stenosis. The prevalence of cerebral atherosclerotic stenosis in Chinese population increased from 15.6 million patients in 2015 to 17.1 million patients in 2020, and is estimated to further increase to 18.8 million patients in 2026.

#### Treatment of Cerebral Atherosclerotic Stenosis

Treatment options for cerebral atherosclerotic stenosis vary according to the severity of the stenosis and whether the patient is experiencing stroke-like symptoms. Patients are first treated with medication and are encouraged to make lifestyle changes to reduce their risk of stroke. Surgical treatment for cerebral atherosclerotic stenosis is usually recommended when stenosis of an artery is greater than 50% and is performed to prevent stroke by removing or reducing the plaque buildup and enlarging the artery lumen to allow more blood flow to the brain. According to CIC, approximately 15% of patients suffering from cerebral atherosclerotic stenosis are eligible for surgical treatment.

Balloon/stent angioplasty is an important procedure treatment for cerebral atherosclerotic stenosis, and it is a minimally invasive endovascular procedure that compresses the plaque and widens the lumen of the artery, using a balloon dilation catheter and/or a stent. A set of access devices including microcatheter, distal access catheter and micro guidewire, are also used in balloon/stent angioplasty procedures for cerebral atherosclerotic stenosis.

Drug-eluting/coated device is a stent or a balloon catheter carrying an anti-proliferative drug, which is placed in the narrowed or diseased artery to release the drug to the artery wall. The purpose is to prevent fibrosis and thrombus formation, especially in the case of restenosis where a stent has been deployed. They are expected to be the mainstream devices used in future cerebral atherosclerotic stenosis treatment due to proven efficacy and safety.

DES includes a stent and a polymer coating that binds the drug to the stent. The drug is an anti-proliferative drug which is released from the stent to the vessel wall. The DES is mounted on a balloon which enables the stent to expand, therefore reducing elastic retraction of the artery, and enabling the vessel to remain unblocked and open. In addition, the release of the anti-proliferative drug is relatively more controllable on a stent, which remains situated at the target vessel lesion.

DCB uses a balloon catheter covered with an anti-proliferative drug which is released to the vessel after inflation of the balloon. The balloon must extend beyond the lesion at both proximal and distal ends to fully cover the lesion. It takes approximately 60 seconds for the drug to diffuse through

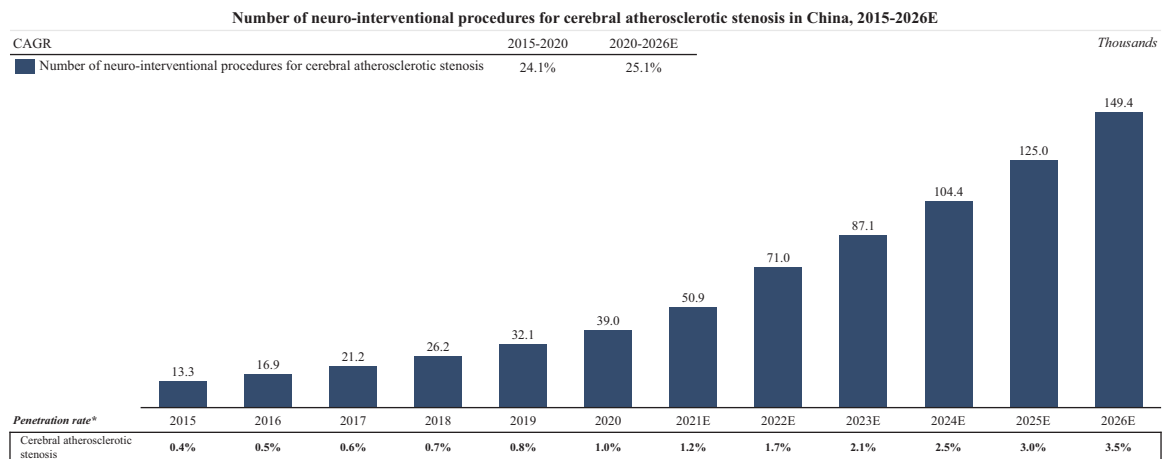
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the vessel wall and take effect on the cells. DCB allows homogeneous anti-proliferative drug coverage of the whole lesion surface without causing much damage to the vessel wall as no metal structure is used in the procedure. No residual foreign body is left in the vessel, thus it is less likely to result in adverse material-tissue reaction.

### Cerebral Atherosclerotic Stenosis Neuro-Interventional Medical Device Market

The number of cerebral atherosclerotic stenosis neuro-interventional procedures in China increased from approximately 13,300 in 2015 to approximately 39,000 in 2020 and is estimated to further increase to approximately 149,400 in 2026, at a CAGR of 25.1% from 2020 to 2026. The penetration rate of cerebral atherosclerotic stenosis neuro-interventional procedures in China, measured by the number of procedures as a percentage of the number of patients eligible for such procedures, is expected to increase from 1.0% in 2020 to 3.5% in 2026. The chart below sets forth the historical and forecasted number of cerebral atherosclerotic stenosis neuro-interventional procedures in China for the periods indicated:

#### Number of neuro-interventional procedures for cerebral atherosclerotic stenosis in China, 2015-2026E



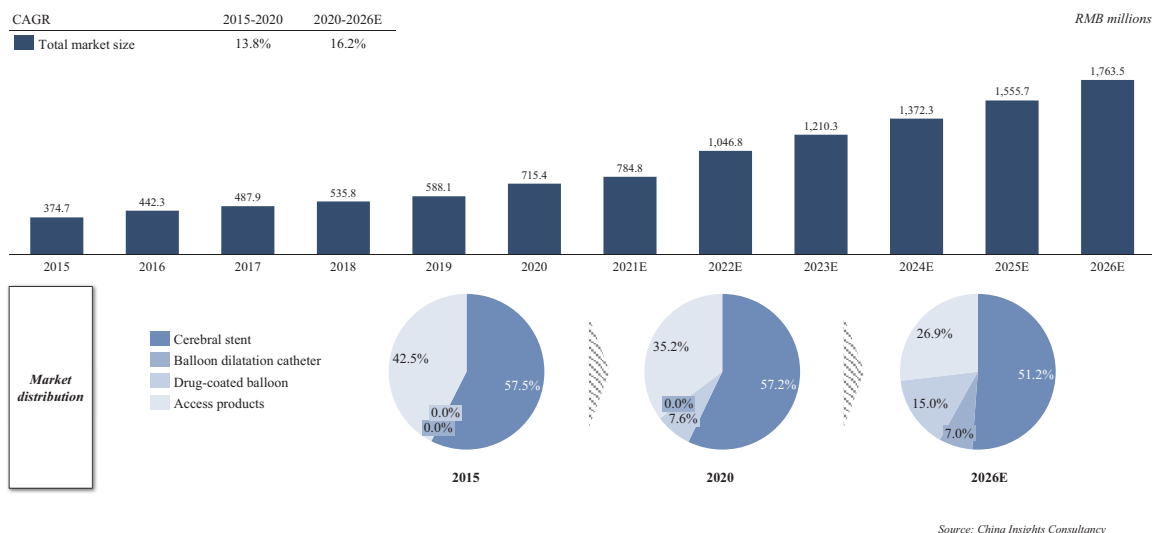
\*The penetration rate is measured by the number of procedures as a percentage of the number of patients eligible for such procedures.

Source: China Insights Consultancy

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The market size of the China cerebral atherosclerotic stenosis neuro-interventional medical device market in terms of sales revenue by ex-factory price increased from RMB374.7 million in 2015 to RMB715.4 million in 2020 at a CAGR of 13.8% and is expected to further increase to RMB1.8 billion in 2026 at a CAGR of 16.2% from 2020 to 2026. The chart below sets forth the market size for cerebral atherosclerotic stenosis neuro-interventional devices in China:

### Market size of neuro-interventional devices for cerebral atherosclerotic stenosis in China, 2015-2026E



## Competitive Landscape

### Stents

As of the Latest Practicable Date, there were five NMPA-approved cerebral and vertebral stents (including DES) for treating cerebral atherosclerotic stenosis manufactured by one international company and three domestic companies in China. According to CIC, our APOLLO has a market share of approximately 47.0% in the intracranial stent market, in terms of 2020 sales volume. The details of which are set forth below:

#### Competitive Landscape of Cerebral Stents, as of the Latest Practicable Date

Product	Company	NMPA First Approval Time
APOLLO	Our Company	November 2004
Wingspan Stent System	Stryker Neurovascular	November 2006
Intracranial DES (顱內藥物洗脫支架系統)	Sino Medical Sciences Technology Inc. (賽諾醫療)	July 2021

#### Competitive Landscape of Vertebral Stents, as of the Latest Practicable Date

Product	Company	NMPA First Approval Time
Rapamycin Vertebral Artery DES (雷帕霉素藥物洗脫椎動脈支架系統)	Alain Biotechnology Co. Ltd. (Beijing) (雅倫生物科技)	July 2020
Bridge	Our Company	December 2020

## INDUSTRY OVERVIEW

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### THE CHINA ACUTE ISCHEMIC STROKE NEURO-INTERVENTIONAL MEDICAL DEVICE MARKET

Acute ischemic stroke is characterized by a sudden loss of blood circulation to an area in the brain, resulting in a corresponding loss of neurologic function. AIS occurs when blood flow through a brain artery is blocked by a clot, a mass of thickened blood. Typical cause of AIS is intracranial atherosclerosis.

With an ageing population, the incidence of AIS in China is expected to increase from 1.7 million in 2020 to 1.8 million in 2026. The incidence rate of AIS in China also increased from 120 per 100,000 people in 2015 to 124 per 100,000 people in 2020, and it is expected to remain stable from 2020 to 2026.

#### Treatment of Acute Ischemic Stroke

Treatment of AIS is time-sensitive. It is crucial to provide proper treatment to AIS patients within 24 hours from symptom onset to avoid brain damage. The best treatment time for AIS is four to six hours since symptom onset. Before 2004, intravenous thrombolysis was the only approved treatment for AIS. The application of intravenous thrombolysis is recommended to be used within three hours from symptom onset.

Due to the low recanalization rate of intravenous thrombolysis, stent-retrieving thrombectomy has become the first-line treatment for AIS. Stent-retrieving thrombectomy is a minimally invasive procedure to remove a clot from a target vessel. Using fluoroscopy or continuous X-ray, the physician guides the device through patients' vessel to locate and extract the clot. Stent-retrieving thrombectomy is used within 24 hours from symptom onset.

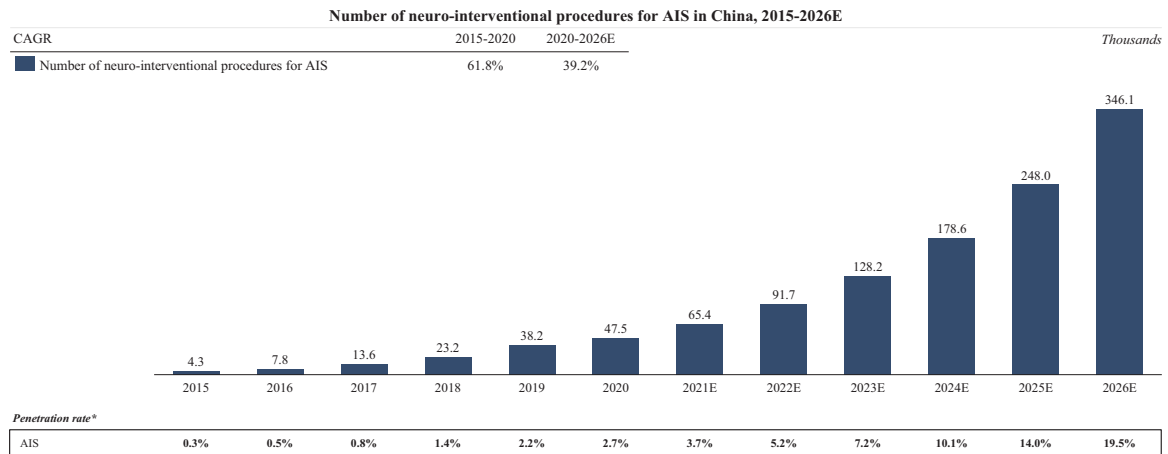
Aspiration thrombectomy is a relatively new approach to treat AIS. Aspiration thrombectomy is a neuro-interventional procedure using negative pressure to pull out the clot through an aspiration catheter. Aspiration thrombectomy is proven to have similar effects as stent-retrieving thrombectomy. It can be conducted independently or in conjunction with stent-retrieving thrombectomy.

## INDUSTRY OVERVIEW

### Acute Ischemic Stroke Neuro-Interventional Medical Device Market

The number of AIS neuro-interventional procedures in China increased from approximately 4,300 in 2015 to 47,500 in 2020, at a CAGR of 61.8%, and is estimated to further increase to approximately 346,100 in 2026, at a CAGR of 39.2% from 2020 to 2026. The chart below sets forth the number of neuro-interventional procedures for AIS in China:

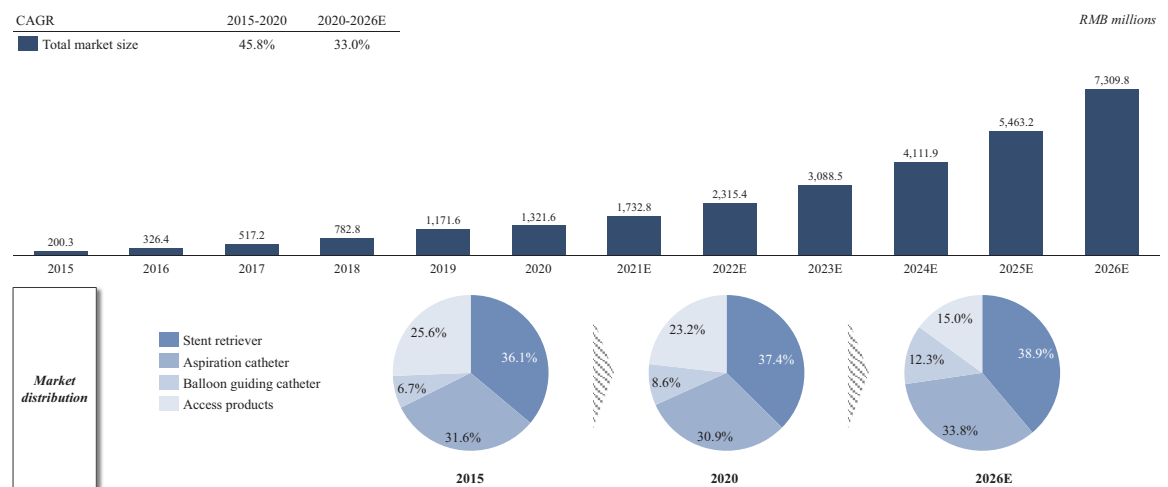
#### Number of neuro-interventional procedures for AIS in China, 2015-2026E



Source: China Insights Consultancy

The market size for China’s AIS neuro-interventional medical devices in terms of sales revenue by ex-factory price increased from RMB0.2 billion in 2015 to RMB1.3 billion in 2020 at a CAGR of 45.8% and is expected to further increase to RMB7.3 billion in 2026 at a CAGR of 33.0% from 2020 to 2026. The chart below sets forth the market size for AIS neuro-interventional medical devices in China:

#### Market size of neuro-interventional medical devices for AIS in China, by device type, 2015-2026E



Source: China Insights Consultancy



## INDUSTRY OVERVIEW

### Competitive Landscape

#### *Stent Retriever*

As of the Latest Practicable Date, there were 16 stent retrievers approved by the NMPA, including stent retrievers developed by both Chinese companies and international companies. We submitted an NMPA registration application of *Neurohawk* in March 2021 and received approval in the first quarter of 2022. In addition, *Tigertriever* was admitted to the Green Path in May 2020. We submitted *Tigertriever*'s NMPA application in December 2021 and expect to receive approval in the fourth quarter of 2022. We are the exclusive distributor for *Tigertriever*, *Tigertriever 13* and all follow-up products of *Tigertriever* in Greater China. The following table sets forth these approved stent retrievers:

<u>Company</u>	<u>Number of approved stent retriever</u>	<u>First approved time by NMPA</u>
Medtronic	3	April 2015
Stryker Neurovascular	2	December 2015
Johnson & Johnson	2	November 2018
Acandis GmbH	1	January 2016
Jiangsu Ni Ke	1	May 2018
Shanghai Heartcare	1	August 2020
Zylox-Tonbridge Medical	1	September 2020
Skynor Medical	1	May 2021
Ruikangtong Scientific	1	July 2021
Our Company	1	February 2022
Achieva Medical	1	February 2022
NeuroCare Medical	1	February 2022
<b>Total</b>	<b>16</b>	

#### *Aspiration Catheter*

As of the Latest Practicable Date, there were eight aspiration catheters approved by the NMPA. We commenced R&D for *W-track* in May 2021. We expect to submit an NMPA registration application in third quarter of 2022 and receive approval in 2023. The following table sets forth these approved aspiration catheters:

<u>Company</u>	<u>Number of approved aspiration catheter</u>	<u>First approved time by NMPA</u>
Penumbra	3	May 2018
Hemo Bioengineering	1	May 2021
MicroVention	1	July 2021
Weiming Medical	1	April 2022
Yijie Medical	1	April 2022
Achieva Medical	1	May 2022
<b>Total</b>	<b>8</b>	

### SOURCE OF INFORMATION

We commissioned CIC, a market research and consulting company and an Independent Third Party, to conduct research and analysis of, and to produce a report on, the neuro-interventional

## **INDUSTRY OVERVIEW**

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medical device market in China for the period from 2015 to 2026. The CIC Report has been prepared by CIC independent of the influence of our Group and other interested parties. We have agreed to pay CIC a total fee of RMB0.8 million for the preparation and use of the CIC Report, and we believe that such fees are consistent with the market rate. CIC is a consulting firm founded in Hong Kong and provides professional industry consulting services across multiple industries. CIC’s services include industry consultancy services, commercial due diligence and strategic consulting.

In compiling and preparing the report, CIC conducted both primary and secondary research using a variety of resources. Primary research involved interviewing key industry experts and leading industry participants. Secondary research involved analyzing data from various publicly available data sources, including but not limited to the National Bureau of Statistics, National Medical Products Administration, Food and Drug Association, National Health Commission of the PRC, the International Monetary Fund, World Health Organization. The market projections in the CIC report are based on the following key assumptions: (i) the overall social, economic and political environment in China is expected to remain stable during the forecast period; (ii) China’s economic and industrial development is likely to maintain a steady growth trend over the next decade; (iii) increasing number of procedures, growing acceptance of domestic products, increasing amount of R&D expenditures, increasing patient affordability; (iv) the negative impact caused by COVID-19 outbreak since 2020 on the industry is expected to be limited, hence the impact of the COVID-19 outbreak and future market estimations for growth are based on the industry and economic recovery in China since the second quarter of 2020; and (v) there is no extreme force majeure or industry regulation in which the market may be affected dramatically or fundamentally.