

## INDUSTRY OVERVIEW

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### SOURCE OF INFORMATION

This section includes information from the CIC Report, a report commissioned by us, as we believe such information imparts a greater understanding of the industry in which we operate to potential [REDACTED]. CIC is a consulting firm founded in Hong Kong, and has an industry expert network database and provides professional industry consulting across multiple industries. We have agreed to pay a total of RMB886,000 in fees to CIC for the preparation of the report, which we believe to be consistent with market rates. We are of the view that the payment of such fee does not impair the fairness of the conclusions drawn in the CIC Report. Figures and statistics provided in this document and attributed to CIC or the CIC Report have been extracted from the CIC Report and published with the consent of CIC.

In preparing the CIC Report, CIC conducted both primary and secondary research through various resources. Primary research involved interviewing key industry experts and leading industry participants. Secondary research involved analyzing data from various publicly available data sources. CIC also assumed that (1) China's overall social, economic and political environment are expected to remain stable during the forecast period, (2) China's economic and industrial development is likely to maintain a steady growth trend over the next decade, (3) relevant market drivers are expected to continue to drive the growth of the relevant markets in the forecast period, such as the raising consciousness of improving personal appearance, changes in lifestyles and consumption habits, and (4) there is no extreme force majeure event or new industry regulation which would affect the market dramatically or fundamentally.

### DIRECTORS' CONFIRMATION

After making reasonable inquiries, our Directors confirm that to the best of their knowledge, there has been no adverse change in the market information presented in the CIC Report since the date of the report which may disqualify, contradict or have an impact on the information in this document.

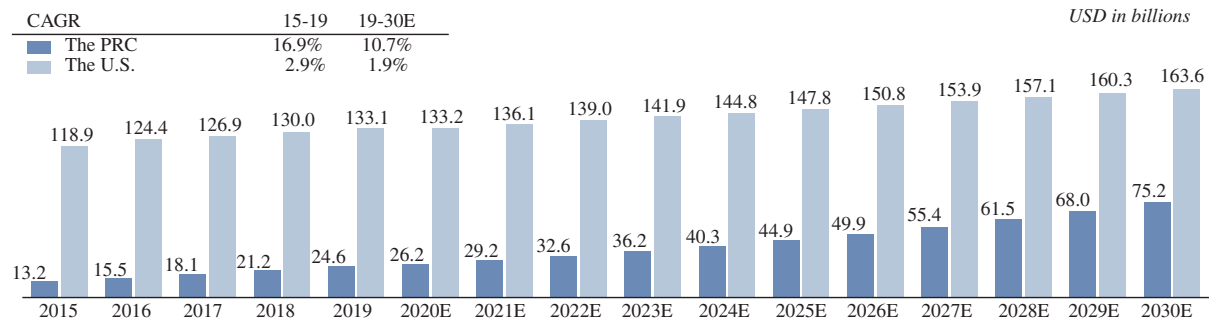
### THE DENTAL CARE SERVICES MARKETS IN CHINA AND THE U.S.

#### Overview

The U.S. dental care services market, in terms of service revenue, increased from US\$118.9 billion in 2015 to US\$133.1 billion in 2019 at a CAGR of 2.9%, and is expected reach US\$163.6 billion in 2030 at a CAGR of 1.9% from 2019 to 2030, according to the CIC Report. By comparison, China's dental care services market, in terms of service revenue, increased from US\$13.2 billion in 2015 to US\$24.6 billion in 2019 at a CAGR of 16.9%, and is expected to reach US\$75.2 billion in 2030 at a CAGR of 10.7% from 2019 to 2030, according to the same source.

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### The U.S. and China’s dental care services market size, 2015-2030E



Sources: the CIC Report

### Comparative Analysis of Dental Care Services Markets in China and the U.S.

According to the CIC Report, the gap between the U.S. and China’s dental care services markets is expected to narrow in the future. While the U.S. dental care services market was 9.0 times larger than China’s dental care services market in 2015 in terms of service revenue, the gap narrowed to 5.4 times in 2019 and is expected to further narrow to 2.2 times in 2030. In terms of per visit expense for dental care services, in 2015, U.S. citizens spent US\$695.9 per visit, which was about 7.4 times more than the per visit expense by Chinese citizens. The gap narrowed to 5.1 times in 2019, and is expected to narrow to 2.8 times in 2030, which indicates a great potential for customer value and China’s dental care services market.

## OVERVIEW OF THE ORTHODONTICS MARKET

### Introduction of Malocclusion and Orthodontics

According to the World Health Organization, malocclusion refers to a set of dental deviations, including crowding, spacing, and protrusion, which may adversely affect the quality of life. There are three main categories of malocclusion. Class I malocclusion usually comes with problems like spacing, crowding, and over or under eruption. Class II malocclusion includes retrognathism, overjet and overbite. Class III malocclusion includes prognathism, anterior crossbite, negative overjet and underbite. Class II and III malocclusion are more complicated and harder to treat than Class I malocclusion.

Orthodontics is a specialty of dentistry that deals with the diagnosis, prevention and correction of malocclusion. Orthodontic treatment applies constant, gentle force in a specific direction on the teeth to move them into better positions.













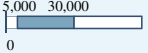
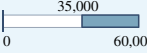
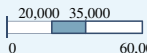

### Comparative Analysis of Major Orthodontic Treatment Methods

There are two major methods of orthodontic treatment, namely the traditional orthodontics treatment method and the clear aligner treatment method. The traditional method uses metal braces, lingual braces, ceramic braces, and other visible aligners. The clear aligner treatment method, as the advanced treatment method, uses custom manufactured, removable, clear aligners. After conducting dental diagnosis, dental professionals usually determine the appropriate type of orthodontic treatment for a specific patient based on the patient’s malocclusion condition, the severity of the issue, the expected treatment results, and the patient’s preferences.

The traditional orthodontic treatment method has long been the major therapy for malocclusion. However, it has various limitations, including (1) unattractive appearance due to noticeable braces, (2) oral discomfort due to the design and material of traditional braces, (3) poor oral hygiene due to non-removable braces, (4) high technique requirements for dental professionals which generally require post-graduate professional training in orthodontics, and (5) frequent and lengthy subsequent visits due to the necessity of adjusting, repairing or replacing the arch wires.

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First launched in the U.S. in 1998, the development of the clear aligner treatment method has broken through the limitations of the traditional orthodontic treatment method with various benefits, including (1) excellent aesthetics due to transparent clear aligners, (2) high oral comfort level due to the custom design and advanced material of clear aligners, (3) improved oral hygiene due to removable clear aligners, (4) comprehensive support for treatment planning from clear aligner solution providers, (5) reduced frequency and time of subsequent visits, and (6) relatively moderate requirements for, and easy adoption by, GP dentists.

	1 Traditional Orthodontic Treatment Methods			2 Clear Aligners
	1a Metal Braces	1b Lingual Braces	1c Ceramic Braces	2a Clear Aligners
<b>Orthodontic treatments</b>				
<b>Indications</b>	<ul style="list-style-type: none"> <li>Severe, moderate, and mild malocclusion</li> </ul>	<ul style="list-style-type: none"> <li>Mild to moderate malocclusion</li> </ul>	<ul style="list-style-type: none"> <li>Mild to moderate malocclusion</li> </ul>	<ul style="list-style-type: none"> <li>Mild to moderate malocclusion</li> </ul>
<b>Aesthetics</b>	<ul style="list-style-type: none"> <li>The braces are noticeable as metal brackets and wires are fixed on the surface of the teeth</li> </ul>	<ul style="list-style-type: none"> <li>The braces are placed on the lingual side of the teeth, making them partially invisible</li> </ul>	<ul style="list-style-type: none"> <li>The braces are half-transparent and not obvious</li> </ul>	<ul style="list-style-type: none"> <li>The clear aligners are transparent and hard to notice, commonly worn in pairs over the upper and lower dental arches</li> </ul>
<b>Sanitary conditions</b>	<ul style="list-style-type: none"> <li>The braces are fixed and non-removable, which makes it hard to maintain dental hygiene and induces complications such as gingivitis</li> </ul>	<ul style="list-style-type: none"> <li>The braces can trap food particles easily, increasing the potential of tooth decay</li> </ul>	<ul style="list-style-type: none"> <li>The braces provide more places for food debris and bacteria to hide and breed</li> </ul>	<ul style="list-style-type: none"> <li>The aligners are removable and easy to clean</li> </ul>
<b>Comfort levels</b>	<ul style="list-style-type: none"> <li>Metal braces exhibit a strong presence in the mouth and can irritate mouth tissues or rub against the gums and lips</li> </ul>	<ul style="list-style-type: none"> <li>The braces can cause some degree of tongue impairment</li> </ul>	<ul style="list-style-type: none"> <li>Archwires and braces can rub sore spots inside of the mouth</li> </ul>	<ul style="list-style-type: none"> <li>Clear aligners are not made of archwire, hence cause little discomfort</li> </ul>
<b>Treatment cycles</b>	<ul style="list-style-type: none"> <li>1.5 - 2 years</li> </ul>	<ul style="list-style-type: none"> <li>1.5 - 2 years</li> </ul>	<ul style="list-style-type: none"> <li>1.5 - 2 years</li> </ul>	<ul style="list-style-type: none"> <li>0.8 - 2 years</li> </ul>
<b>Frequency of subsequent visits</b>	 Every 4 - 6 weeks	 Every 3 - 5 weeks	 Every 4 - 6 weeks	 Every 8 - 12 weeks
<b>Time spent on each subsequent visit</b>	 ~45 minutes	 ~60 minutes	 ~45 minutes	 ~15 minutes
<b>Retail price (RMB)</b>				
<b>Professional requirements for orthodontists /GP dentists</b>	<ul style="list-style-type: none"> <li>High requirements</li> <li>post-graduate level of professional training in orthodontics</li> </ul>	<ul style="list-style-type: none"> <li>Extremely high requirements</li> <li>Extra training to learn how to apply and adjust the braces inside of the teeth</li> </ul>	<ul style="list-style-type: none"> <li>High requirements</li> <li>post-graduate level of professional training in orthodontics</li> </ul>	<ul style="list-style-type: none"> <li>Relatively moderate requirements</li> <li>Specific training for the clear aligner treatment method; additional support from medical services teams of clear aligner treatment solution providers</li> </ul>

Less beneficial to users/ dental professionals
 
 More beneficial to users/ dental professionals

Sources: the CIC Report

As a result, an increasing number of patients, after weighing their options, have been inclined to choose the clear aligner treatment method considering its benefits and advantages. Moreover, clear aligner treatment appeals to a large number of people who otherwise would not take orthodontic treatment due to the limitations of traditional orthodontic treatment.

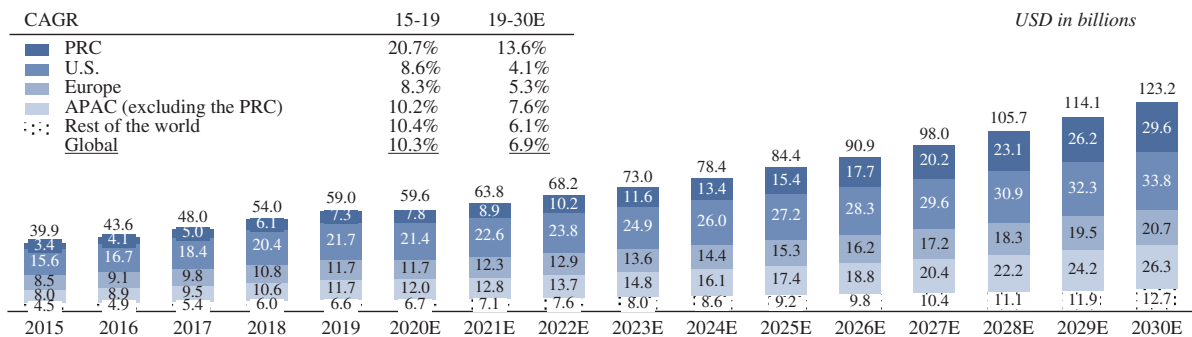
## INDUSTRY OVERVIEW

### The Global Orthodontics Market and China’s Orthodontics Market

The global orthodontics market, in terms of retail sales revenue, grew from US\$39.9 billion in 2015 to US\$59.0 billion in 2019 at a CAGR of 10.3%, primarily driven by the rapid growth of orthodontics markets in China, the United States, European countries, and other Asia Pacific (“APAC”) regions, according to the CIC Report. Furthermore, it is expected that China’s orthodontics market will continue to lead the growth of the global orthodontics market in the foreseeable future, and the global orthodontics market is expected to reach US\$123.2 billion in 2030 at a CAGR of 6.9% from 2019 to 2030, according to the same source. In addition, the number of global orthodontics cases increased from 11.8 million in 2015 to 16.9 million in 2019 at a CAGR of 9.4%, and is expected to reach 33.9 million in 2030 at a CAGR of 6.5%.

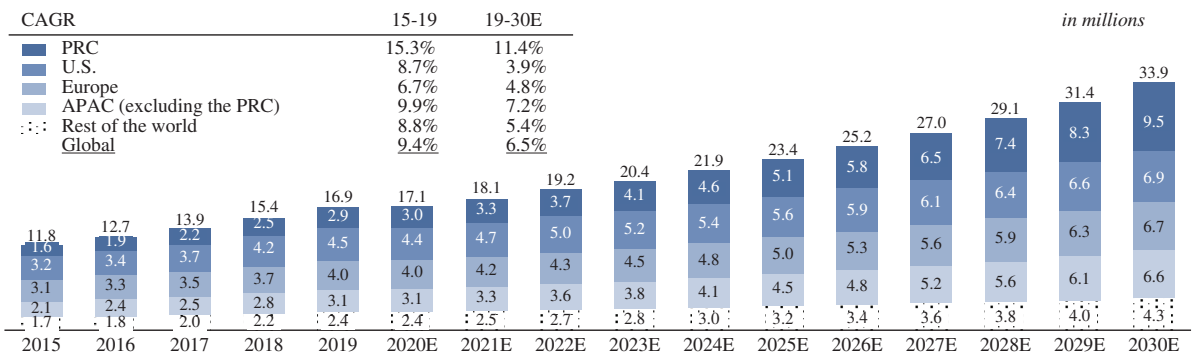
China’s orthodontics market, in terms of retail sales revenue, increased from US\$3.4 billion in 2015 to US\$7.3 billion in 2019 at a CAGR of 20.7%, and is expected to reach US\$29.6 billion in 2030 at a CAGR of 13.6% from 2019 to 2030, according to the CIC Report. In addition, the number of China’s orthodontics cases increased from 1.6 million in 2015 to 2.9 million in 2019 at a CAGR of 15.3%, and is expected to reach 9.5 million in 2030 at a CAGR of 11.4%.

**Global orthodontics market size, by region, 2015-2030E**



Sources: the CIC Report

**Global orthodontics cases, by region, 2015-2030E**



Sources: the CIC Report

## INDUSTRY OVERVIEW

### Key Drivers of China’s Orthodontics Market

The development of China’s orthodontics market is primarily driven by the following factors.

- *Growing affluence.* With the increase in disposable income, an increasing number of Chinese consumers are able to afford the out-of-pocket bills relating to orthodontics treatment. Moreover, as a result of the increase in spending power, Chinese consumers are willing to spend more on dental care services, including orthodontics treatment.
- *Heightened awareness of dental health and aesthetics.* Chinese consumers are more conscious of the importance of dental health and aesthetics, as they increasingly relate such to their self-confidence and social status. As a result, they are motivated to seek orthodontic treatment to improve their appearances.
- *Increasing number of orthodontic treatment providers.* The number of medical institutions providing orthodontic treatment in China, including general hospitals, dental hospitals and clinics, has increased in recent years, primarily driven by favorable government policies. In addition, the vibrant orthodontic market and lowering difficulty of orthodontic treatment practice have attracted a number of GP dentists to obtain orthodontist certificates. As a result, the number of orthodontic treatment providers increases in China, which improves the accessibility of orthodontic treatment services.

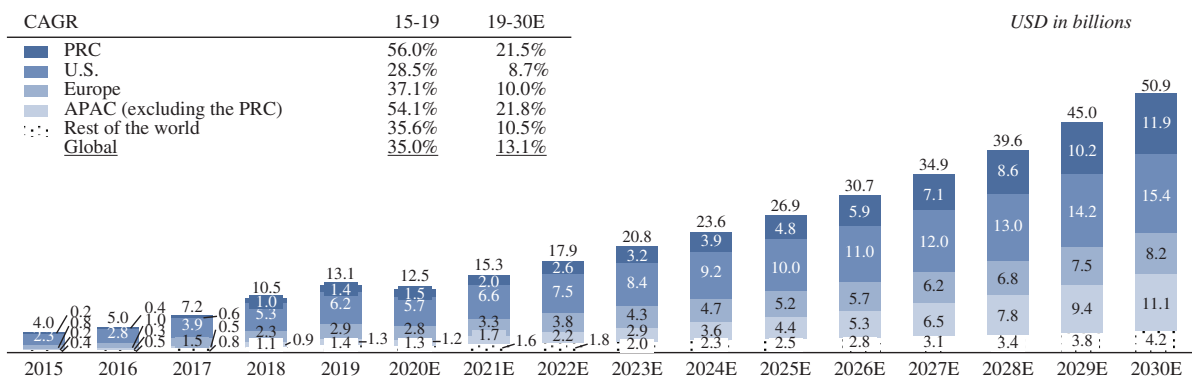
### CHINA’S CLEAR ALIGNER MARKET

#### Overview of China’s Clear Aligner Market

The global clear aligner market, in terms of retail sales revenue, increased from US\$4.0 billion in 2015 to US\$13.1 billion in 2019 at a CAGR of 35.0%, and is expected to reach US\$50.9 billion in 2030 at a CAGR of 13.1% from 2019 to 2030. The growth of the global clear aligner market is mainly driven by the development of the clear aligner market in developing countries, such as China. In addition, the number of global orthodontics cases addressed by clear aligners increased from 0.8 million in 2015 to 3.1 million in 2019 at a CAGR of 39.0%, and is expected to reach 12.9 million in 2030 at a CAGR of 13.9%.

China’s clear aligner market has become the second largest market in the world in 2019. The market size, in terms of retail sales revenue, increased from US\$0.2 billion in 2015 to US\$1.4 billion in 2019 at a CAGR of 56.0%, and is expected to reach US\$11.9 billion by 2030 at a CAGR of 21.5% from 2019 to 2030. By contrast, the growth of the clear aligner markets in the U.S. and Europe is expected to decelerate to a CAGR of 8.7% and 10.0% from 2019 to 2030, respectively. In addition, the number of China’s orthodontics cases addressed by clear aligners increased from 47,800 in 2015 to 303,900 in 2019 at a CAGR of 58.8%, and is expected to reach 3.8 million in 2030 at a CAGR of 25.9%.

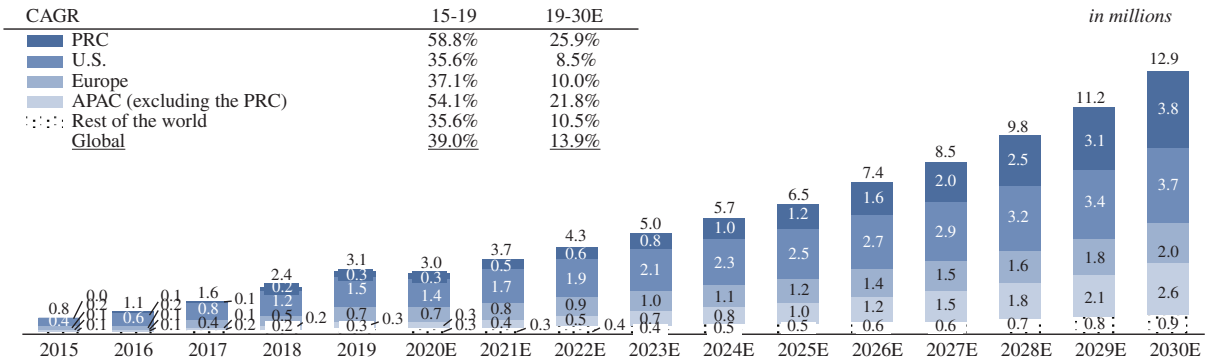
Global clear aligner market, by region, 2015-2030E



Sources: the CIC Report

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### Global clear aligner treatment cases, by region, 2015-2030E

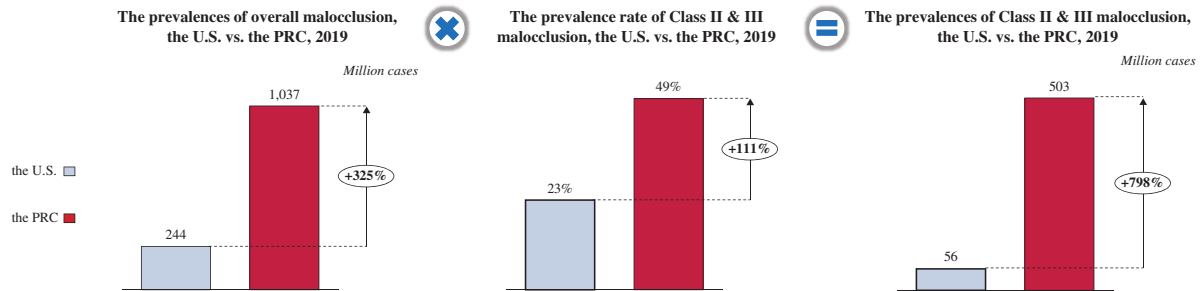


Sources: the CIC Report

### Comparative Analysis of Clear Aligner Markets in China and the U.S.

**China has a higher prevalence rate of complicated malocclusion cases than the U.S.**

Class II and III malocclusion cases are considered as complicated malocclusion cases. As a result of the differences in facial types, China has a higher prevalence rate of complicated malocclusion cases than the U.S. According to the CIC Report, in 2019, the overall prevalence rate of malocclusion in China and the U.S. reached approximately 74.0% and 73.0%, respectively, whereas the prevalence rate of Class II and III malocclusion cases in China reached approximately 49.0%, compared to that of 23.0% in the U.S.



Sources: the CIC Report

**China has a smaller population receiving clear aligner treatment compared to that of the U.S., with a high growth potential in user base in the future**

China's clear aligner market is still at a nascent stage. In 2019, China had approximately 1,037 million malocclusion cases, much higher than that of approximately 244 million in the United States. However, among the 2.9 million treated malocclusion cases in China in 2019, only 10.5% were addressed with clear aligners, whereas 33.1% of the 4.5 million treated malocclusion cases in the United States were addressed with clear aligners. Such significant disparities indicate a huge underpenetrated clear aligner market in China.

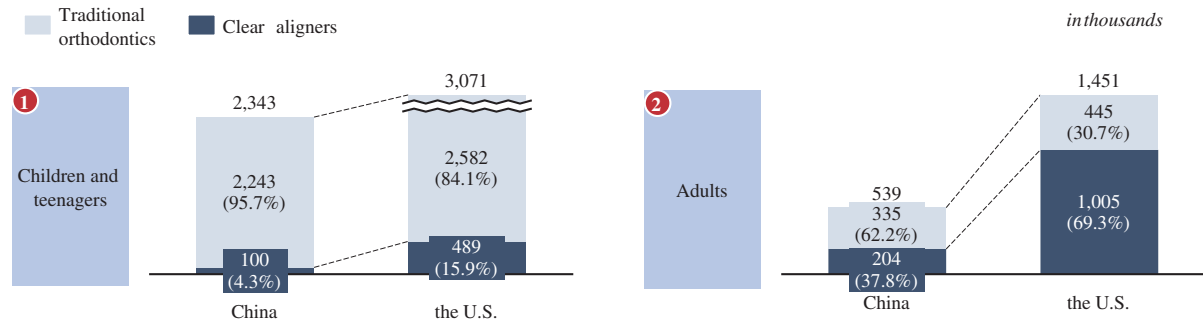


Sources: the CIC Report

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In particular, in China, approximately 4.3% and 37.8% of the treated malocclusion cases of children and teenagers and adults, respectively, were addressed by clear aligners. In comparison, in the U.S., approximately 15.9% and 69.3% of the treated orthodontics cases of children and teenagers and adults, respectively, were addressed by clear aligners.

### Treated traditional orthodontics cases & clear aligner cases in China and the U.S., children and teenagers<sup>(1)</sup> vs. adults<sup>(2)</sup>, 2019



Note: (1) Refer to people aged 18 years or under. (2) Refer to people aged between 19 to 60 years old.

Sources: the CIC Report

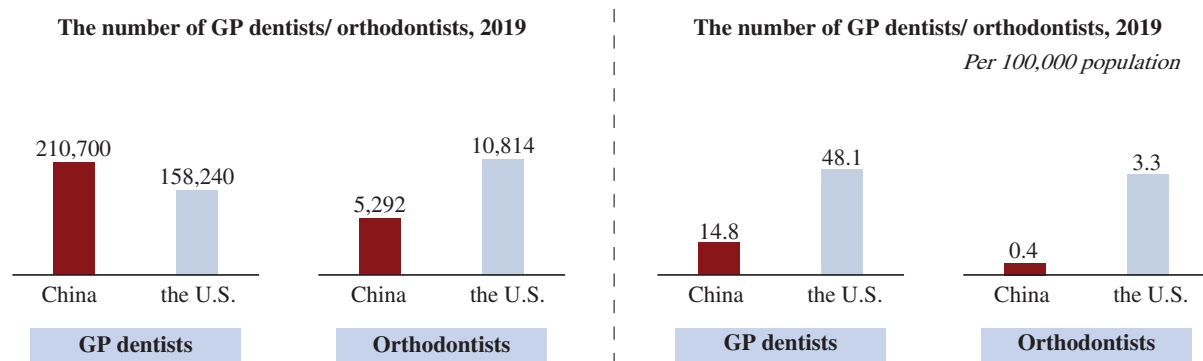
***China has a huge, unmet demand for both GP dentists and orthodontists compared with the U.S., which directly affects the supply of clear aligners treatment services***

According to the CIC Report, in 2019, there were approximately 158,200 GP dentists and 10,800 orthodontists in the U.S., which translated to 48.1 GP dentists and 3.3 orthodontists per 100,000 population. In comparison, there were approximately 210,700 GP dentists and 5,300 orthodontists in China in 2019, which translated to 14.8 GP dentists and 0.4 orthodontists per 100,000 population. Therefore, there is a great potential for increase in both the absolute and relative number of GP dentists and orthodontists in China, which will in turn increase the amount of clear aligners treatment services that can be delivered.

The relative shortage of orthodontists in China is primarily due to the stringent requirements for orthodontist candidates in China, including an orthodontics graduate degree and recognition as members of existing orthodontics authorities such as the Chinese Orthodontics Society or the World Federation of Orthodontists. Driven by increasing investments in dental care education and growing public awareness of dental health, it is expected that the number of GP dentists and orthodontists in China will further increase in the future to address the unmet demand.

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### The number of GP dentists and orthodontists in China and the U.S., 2019



Sources: the CIC Report

***While self-payment is currently the only payment option for clear aligner treatment in China, it may be partially covered under certain medical insurance plans in the U.S.***

As the medical insurance system is less developed in China, neither traditional orthodontics treatment nor clear aligner treatment is currently covered under public or private insurance plans, which suggests that orthodontics is still regarded as discretionary consumption rather than necessities in China. By contrast, in the U.S. where the medical insurance system is developed and clear aligner treatment enjoys both longer history and greater acceptance, a growing number of dental plans and other medical insurances have begun to cover clear aligners as well, which in return supports the adoption of clear aligner treatment.

### Key Drivers for China’s Clear Aligner Market

The increased popularity of clear aligner treatment in China among potential patients is primarily driven by the following factors.

- ***Increased willingness to receive treatment.*** The treatment rate of malocclusion among adults was low in the past, primarily due to their concerns about appearance over the course of traditional orthodontic treatment with visible braces. In contrast, more adults are willing to treat malocclusion with clear aligners as a result of improved aesthetics during treatment. In addition, clear aligners provide more comfortable treatment experience compared with traditional treatment, which relieves another concern for potential patients.
- ***Expanding addressable indications.*** Equipped with greater control of teeth movement, clear aligner treatment has been able to address approximately half of all malocclusion indications, according to the CIC Report. Moreover, further technological advancement is likely to promote the adoption of clear aligner treatment to more complicated indications that are more common in China, which provides a continuously expanding pool of new target patients.
- ***Visualization of treatment results through intraoral scanners.*** As an emerging oral digital technology, intraoral scanners bring immediate visualization of the therapeutic effect, which allows patients to preview the image of their treatment effect before deciding whether to proceed with orthodontic treatment. As a result, patients who are uncertain about their treatment effects are more likely to join. Moreover, the penetration rate of intraoral scanners in China in 2019 was approximately 10.0%, compared to that of approximately 40.0% in the U.S. As the cost of intraoral scanners decreases and more brands become available, the penetration rate of intraoral scanners is likely to increase, which in turn will promote the development of China’s clear aligner market.

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The increased adoption of clear aligner treatment in China among dental professionals is primarily driven by the following factors.

- *Growing dental professionals base.* Traditional orthodontic treatment is generally delivered by qualified orthodontists with a master’s degree in orthodontics or having received post-graduate professional training in orthodontics. On the contrary, clear aligner treatment, which requires relatively moderate training and features comprehensive medical and technological support by clear aligner solution providers, can be more easily delivered by both orthodontists and GP dentists.
- *Stronger incentive to provide clear aligner treatment services.* Unlike traditional orthodontics, clear aligner treatment does not require the dentist to bond the bracket or correct arch wires, which reduces the treatment time spent on each visit and increases the number of cases delivered by a dental professional. In addition, clear aligner solution providers continuously introduce new technologies to facilitate the diagnosis and treatment process and new products with easier and more time-saving procedures. As a result of the improved efficiency and productivity, more dental professionals are incentivized to recommend clear aligners over traditional orthodontics.

### Key Development Trends of China’s Clear Aligner Market

According to the CIC Report, the future development of China’s clear aligner market is characterized by the following market trends.

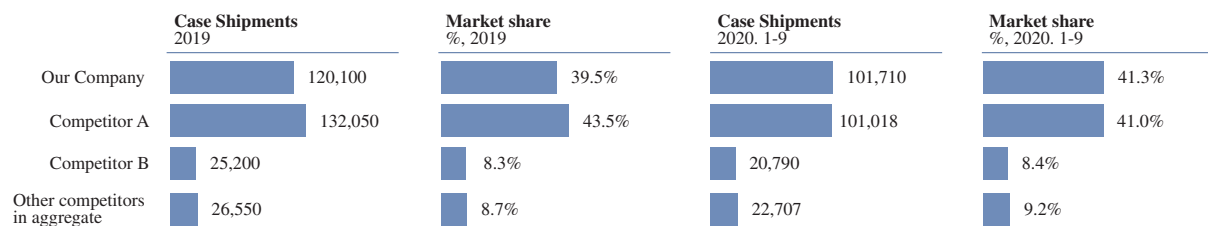
- *Increasing involvement of private medical institutions.* Private medical institutions account for more than half of the cases treated with clear aligners serviced by medical institutions in China, primarily because (1) mandatory medical insurance in China does not cover malocclusion treatment, which reduces patients’ incentives to seek orthodontic treatment in public hospitals; (2) compared with public hospitals in China, private medical service providers are more accessible in terms of the flexibility in scheduling appointments; and (3) malocclusion is generally not considered as a serious illness and patients have fewer concerns with seeking malocclusion treatment from private medical service providers. As such, the penetration rate of private medical institutions is expected to continue to increase in the near future.
- *Rapid development of domestic clear aligner solution providers and high market concentration.* According to the CIC Report, domestic clear aligner solution providers will develop rapidly and further penetrate China’s clear aligner market in the foreseeable future, benefiting from local governmental support. In addition, China’s clear aligner market, as currently dominated by two major players, is expected to remain highly concentrated primarily due to the high entry barriers to China’s clear aligner industry.

### Competitive Landscape for China’s Clear Aligner Treatment Solution Providers

China’s clear aligner treatment solution market is highly concentrated. In the nine months ended September 30, 2020, the top two market players, including us, accounted for an aggregate market share of approximately 82.3% in terms of case shipments. Among the two largest, we accounted for a market share of approximately 41.3% in China in terms of case shipments in the same period. In addition, we ranked first amongst our domestic competitors. Furthermore, we have the most comprehensive product lines among all market players, according to the CIC Report.

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### Major clear aligner treatment solution providers in China



Sources: the CIC Report

### Entry Barriers for China’s Clear Aligner Treatment Solution Providers

- Strong interdisciplinary capability.* While traditional orthodontics requires orthodontists to design the treatment plans by themselves, dental professionals providing clear aligner treatment anticipate comprehensive medical and technological support from clear aligner solution providers throughout the treatment process. As a result, clear aligner solution providers must have strong interdisciplinary capability, including stomatology, biomechanics, materials science, computer science and intelligent manufacturing technologies, all of which are time-consuming and costly to develop by new entrants.
- Brand recognition among dental professionals and patients.* As the treatment for malocclusion cases typically takes around two years and alteration of treatment method midway is difficult, dental professionals are generally inclined to be highly prudent while selecting clear aligner solutions for their patients. China’s clear aligner treatment solution market is currently dominated by two major players with proven quality and long-lasting relationships with dental professionals. They cooperated with top universities and institutions in research and training activities, and have established strong word-of-mouth reputation among dental professionals and patients, making it difficult for new entrants to foster their brand awareness. The significant amount of time and efforts needed to cultivate brand recognition and customer loyalty pose obstacles for new entrants.
- Mass customization capability.* Each clear aligner treatment plan generally requires 40 to 60 pairs of clear aligners towards completion, depending on the complexity of the malocclusion situation. Each clear aligner is customized for a specific treatment stage of a specific patient. As a result, clear aligner solution providers must have mass customization capability, such as top-tier clear aligner design personnel, comprehensive digital customization design systems, sufficient number of 3D printers and other clear aligners manufacturing equipment and infrastructure, which is difficult to assemble for new entrants.
- Diversified product lines.* Product diversification for different customer groups is a key success factor for clear aligner solution providers to satisfy diversified user needs and generate sales from multiple product lines. Both of the two major market players have developed comprehensive product lines that establish a barrier to other players.

### HISTORICAL PRICES OF MAJOR RAW MATERIALS

The principal raw materials for our clear aligners include composite polymer materials (in splint/sheet form). Fluctuations in prices of raw materials may affect our cost structure, product pricing and profitability. At present, clear aligner treatment solution providers in China generally import various types of composite polymer material from foreign countries for the manufacturing of clear aligners. According to the CIC Report, the average import price of composite polymer materials fluctuated slightly in the past few years but generally remained stable, and is expected to gradually decrease going forward due to the enhanced availability of qualified domestic supply.