Initiation

SECTOR REPORT | Internet healthcare

Booming demand with favourable policies

9 January 2020

INVESTMENT SUMMARY

- We initiate the China internet healthcare sector with Buy rating. We rate PAGD and AliHealth at BUY, with TP of HK$ 62/HK$ 11, respectively.
- Equipped with AI-assisted in-house medical staffs, PAGD pioneers the market by online consultation services. We think the strong synergy and support from Ping An Group offer PAGD with a non-replicated business model and the potential to become China's Health Maintenance Organization (HMO) in the long run.
- Pharmaceutical eCommerce-focused AliHealth is well-prepared to embrace opportunities from decontrol of online prescription drug sales and consumer healthcare markets. Its parent company, Alibaba, provide high-traffic, logistic infrastructure and technology support to enable AliHealth to achieve better operating efficiency through economies of scale with continuous profitability improvement.

Research Team

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See the last page of the report for important disclosures

Initiation

Internet Healthcare

Consumer

Internet healthcare: A turning point ahead?

- Yes, we see the recent announced policies with "extending social health insurance coverage to online medical services" and "decontrol of online prescription drug sales" will particularly benefit Ping An Good Doctor (PAGD) and AliHealth.
- We argue that strong parent companies' supports and synergies to achieve better operating efficiency through economies of scale and cross-selling opportunities are underestimated by market, which result in lower profitability street estimates.
- We initiate the sector as BUY, and rate BUY for two market leaders PAGD/AliHealth with TP of HK$ 62/HK$ 11.

Latest policies are particularly favour online healthcare platform

"Extending social health insurance coverage to online medical services" and "Decontrol of online prescription drug sales" are two major policies in C2H19. We view these two policies particularly benefit PAGD on its online medical services with volume increase, and AliHealth on expanding to prescription drugs sales.

Strong parent companies set high entry barrier

AliHealth is getting strong traffic support from its parent company Alibaba mainly through Taobao and Alipay. PAGD is leveraging on Ping An Group's large amount of business clients to create cross-selling opportunities. We believe strong parent companies supports set higher entry barrier for both AliHealth and PAGD.

On the way to better profitability

We expect AliHealth could expand its profit margin from additional revenue contribution from prescription drugs sales with minimal incremental opex given continuous support from Alibaba. PAGD is expected to turn to be profitable later in FY22 as its business-client focus with naturally thin margin, consistent efforts in building up in-house medical team, as well as membership products promotion.

Sector calls on leading players to outperform

We favour AliHealth than PAGD in the near term given it is well-positioned to capture the tailwind and further improve profitability, as well as cheaper valuation of 6.3x 1-yr forward PS than PAGD's 7.4x. PAGD's profitability still needs to take some time, but HMO potential along with strong synergy with Ping An Group leaves long-term opportunities.

Key financial of stock mentioned

	Revenues			Adjusted op.profit			Adjusted NI		
RMB mn	2018A	2019E	2020E	2018A	2019E	2020E	2018A	2019E	2020E
PAGD	3,338	5,024	7,127	(1,121)	(1,032)	(693)	(924)	(809)	(479)
AliHealth	5,096	9,644	16,838	118	217	749	122	242	798

Source: PAGD, AliHealth, Blue Lotus (as of Jan. 9, 2020)

BUY HOLD SELL

Top picks

	Ticker	Rating	Target
Alibaba Health	241 HK	BUY	HK$11

Source: Blue Lotus (as of Jan. 9, 2020)

What has changed

	To	From
Ping An Good Doctor	BUY	N.A.
Alibaba Health	BUY	N.A.

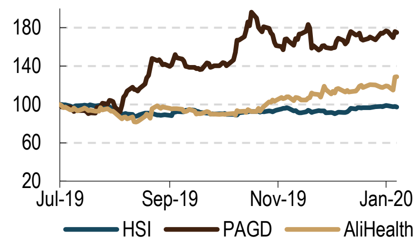
Source: Blue Lotus (as of Jan. 9, 2020)

Stocks mentioned

Name	BBG code	Rating	TP	Curr. price	1 yr PS
PAGD	1833 HK	BUY	62	57.3	7.4
AliHealth	241 HK	BUY	11	9.9	6.3
Alibaba Group	BABA US	BUY	200	217.6	6.1
Ping An Group	2318 HK	NR	NM	92.5	1.2

Source: Blue Lotus (as of Jan. 9, 2020)

Price performance and volume data



Source: Bloomberg (as of Jan. 9, 2020)

Research team

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See the last page of the report for important disclosures

Financial Summary – Ping An Healthcare and Technology

Fiscal year ends 31-Dec

Exhibit 1. Income statement

RMB mn	2018	2019E	2020E
Net revenues	3,338	5,024	7,127
Online medical services	411	785	1,435
Consumer healthcare	905	1,023	1,136
Health mall	1,864	2,980	4,226
Health management & wellness interaction	157	236	330
Cost of revenues	(2,426)	(3,750)	(5,159)
Gross profit	912	1,274	1,968
Selling and marketing expenses	(1,238)	(1,382)	(1,604)
Administrative expenses	(995)	(1,130)	(1,318)
Operating loss	(1,109)	(1,156)	(872)
Adjusted operating profit	(1,121)	(1,032)	(693)
PBT	(912)	(930)	(655)
Net loss attributable to owners of the parent	(912)	(932)	(656)
Adjusted net profit	(924)	(809)	(479)
Share-based payments	(127)	(124)	(178)
Gross profit margin	27.3%	25.3%	27.6%
Operating margin	(33.2%)	(23.0%)	(12.2%)
Net margin	(27.3%)	(18.6%)	(9.2%)
Adjusted operating margin	(33.6%)	(20.5%)	(9.7%)
Adjusted net margin	(27.7%)	(16.1%)	(6.7%)

Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

Company Description

Ping An Healthcare and Technology ("Ping An Good Doctor" or "PAGD") is China's largest internet healthcare platform in terms of average MAUs and daily average online consultations. The Group offers comprehensive healthcare services, including online medical, consumer healthcare, health mall, and health management and wellness interaction. Through leveraging on its in-house medical team and AI technology, PAGD's MAU and daily average consultations reached 62.7mn and 656k as of 1H19.

Industry View

We expect China's internet healthcare industry to grow at a 5-yr CAGR of 26% during 2018-2023. According to Frost & Sullivan, the number of online consultations was 372mn in 2018, and is expected to reach 1.6bn by 2023 (~17.8% penetration of total outpatients). GMV of B2C online pharmaceutical market in China was nearly RMB 54bn in 2018, and is estimated to reach RMB 418bn by 2023, contributing about 16.5% of the total pharmaceutical market.

Exhibit 2. Balance sheet

RMB mn	2018	2019E	2020E
Cash and cash equivalents	926	529	352
Term deposits	5,745	5,745	5,745
Financial assets at fair value through profit or loss	521	583	644
Prepayments and other receivables	372	559	793
Contract assets	61	92	130
Trade receivables	431	649	920
Inventories	39	60	82
Total current asset	8,094	8,216	8,667
Goodwill	967	967	967
Property, plant and equipment	172	260	375
Other intangible assets	86	218	395
Other non-current assets	3,054	3,054	3,054
Total assets	12,374	12,715	13,458
Trade and other payables	1,488	2,300	3,163
Contract liabilities	619	956	1,316
Total liabilities	2,106	3,256	4,479
Total liabilities & shareholder equity	12,374	12,715	13,458

Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

Exhibit 3. Cash flow statement

RMB mn	2018	2019E	2020E
Loss for the year	(913)	(933)	(658)
Depreciation and amortization	45	82	135
Share option expenses	127	124	178
Finance (income)/costs -net	(202)	(227)	(216)
Changes in assets and liabilities:	46	693	656
Increase in trade receivables and other assets	(39)	(457)	(566)
Increase in trade payables and other liabilities	85	1,150	1,223
Net cash flows generated from/(used in) operating activities	(1,085)	(322)	34
Payments for property, plant and equipment and intangible assets	(198)	(301)	(428)
Net cash flows used in investing activities	(9,557)	(301)	(428)
Net cash flows generated from financing activities	7,016	227	216
Net increase in cash & cash equivalents	(3,627)	823	2,030
Balance b/f	4,595	293	1,678
Balance c/f	926	529	352

Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

Financial Summary – Alibaba Health

Fiscal year ends 31-Mar

Exhibit 4. Income statement

RMB mn	FY2019	FY2020E	FY2021E
Net revenues	5,096	9,644	16,838
Pharmaceutical self-operated business	4,227	7,653	13,511
Pharmaceutical eCommerce platform business	690	1,575	2,513
Consumer healthcare business	128	333	667
Tracking services	39	45	51
Innovative healthcare related services and others	12	38	96
Cost of revenues	(3,765)	(7,194)	(12,460)
Gross profit	1,331	2,449	4,378
Fulfilment expenses	(572)	(1,181)	(1,894)
Sale and marketing expenses	(455)	(839)	(1,431)
Administrative expenses	(181)	(251)	(404)
Product development expenses	(219)	(318)	(522)
Operating profit (loss)	(96)	(140)	126
Adjusted operating profit	118	217	749
PBT	(61)	(88)	206
Net loss attributable to owners of the parent	(82)	(102)	195
Adjusted net profit	122	242	798
Share-based compensation expenses	(213)	(357)	(623)
Gross profit margin	26.1%	25.4%	26.0%
Operating Margin	(1.9%)	(1.4%)	0.7%
Net Margin	(1.6%)	(1.1%)	1.2%
Adjusted operating margin	2.3%	2.3%	4.4%
Adjusted net margin	2.4%	2.5%	4.7%

Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

Company Description

AliHealth is China's largest pharmaceutical eCommerce platform. As Alibaba's healthcare flagship, the group mainly engages in pharmaceutical eCommerce, consumer healthcare, medicine tracking, internet healthcare, and intelligent medicine businesses. The company was formerly known as CITIC 21CN, renamed as AliHealth in Oct. 2014. As of FY19, the GMV of Tmall Pharmacy platform operated by the Group was RMB 59.5bn, with over 130mn annual active consumers.

Industry View

We expect China's internet healthcare industry to grow at a 5-yr CAGR of 26% during 2018-2023. Frost and Sullivan disclosed the number of online consultations was 372mn in 2018, and we expect it will reach 1.6bn by 2023, with 17.8% penetration of total outpatients. GMV of B2C online pharmaceutical market in China was nearly RMB 54bn in 2018, and is estimated to be RMB 418bn by 2023, representing ~16.5% of total pharmaceutical market.

Exhibit 5. Balance sheet

RMB mn	FY2019	FY2020E	FY2021E
Cash and cash equivalents	280	661	1,608
Restricted cash	1,719	1,719	1,719
Prepayments, other receivables and other assets	323	612	1,068
Trade and bills receivables	365	692	1,208
Inventories	596	1,139	1,972
Total current asset	3,303	4,841	7,595
Property and equipment	9	16	31
Goodwill	27	27	27
Investments in joint ventures	11	11	11
Investments in associates	1,965	1,965	1,965
Long-term receivables	39	39	39
Financial assets at fair value through profit or loss ("FVPL")	508	449	391
Total assets	5,982	7,469	10,178
Trade and bills payables	903	1,725	2,988
Other payables and accruals	464	886	1,535
Contract liabilities	152	152	152
Total liabilities	3,245	4,490	6,401
Total liabilities & shareholder equity	5,982	7,469	10,178

Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

Exhibit 6. Cash flow statement

RMB mn	FY2019	FY2020E	FY2021E
Loss before tax	(61)	(88)	206
Bank interest income	(24)	(14)	(34)
Gain on disposal of a joint venture /subsidiary	(12)	(58)	(58)
Finance costs	28	34	26
Depreciation	4	4	5
Share-based compensation expenses	213	357	623
Adjustments for balance sheet items	2,680	872	1,053
Increase in trade and bills receivables	(275)	(326)	(516)
Increase in prepayments, other receivables and other assets	(181)	(289)	(457)
Increase in inventories	(141)	(543)	(833)
Increase in trade and bills payables	579	822	1,263
Increase in other payables and accruals	231	422	649
Net cash flows generated from/ (used in) operating activities	396	310	876
Purchases of items of property and equipment	(6)	(12)	(20)
Net cash flows used in investing activities	(2,396)	105	96
Interest paid	(11)	(34)	(26)
Net cash flows generated from financing activities	1,708	(34)	(26)
Net increase in cash & cash equivalents	(291)	381	947
Balance b/f	508	280	661
Balance c/f	280	661	1,608

Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

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What are key pain points in healthcare market?

Inconsistency between booming demand with physician shortage

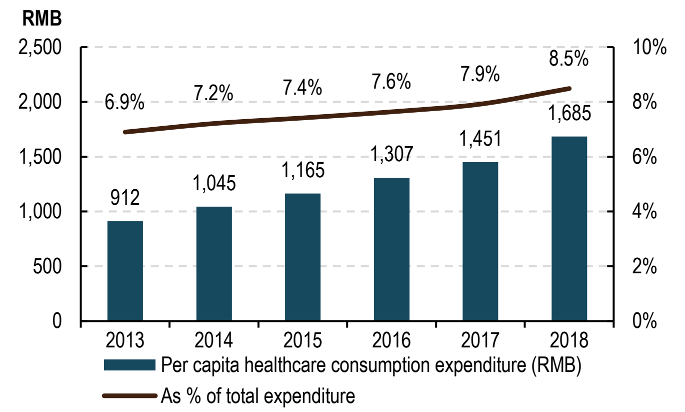
China's government has unveiled a series healthcare reforms over the last decade, with the goal of offering effective, accessible, and affordable healthcare services for all of China's more than 1.4bn population. We saw that medical reform has achieved some success in establishing a primary care system with more than 95% population insured, but China is still facing growing social pressure from a mismatch between surging healthcare demand and shortage in medical resources' supply, as well as excessive cost burden on China's healthcare system.

Continuous rising demand for healthcare services

We expect healthcare demand to grow steadily as rising wealth, aging population, and proliferating lifestyle illnesses.

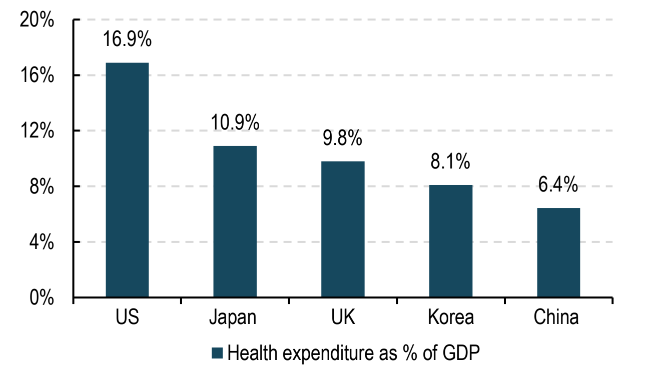
Rising living standards and disposable income make people have higher willingness to spend on healthcare services. Annual disposable income per capita grew at a 9% 5-yr CAGR to RMB 28,228 in 2018, while people tend to allocate an increasing proportion of budget on healthcare services from 6.9% to 8.5% during 2013-2018, based on National Bureau of Statistics (NBS). China's healthcare expenditure represents nearly 6% of GDP, which still lagged far behind those of overseas markets, indicating a huge upside potential. Therefore, we expect the trend will continue with more household budget allocated on healthcare services as living standard improves and basic needs are satisfied.

Exhibit 7. China's per capita healthcare expenditure & as % of total consumption



Source: NBS, Blue Lotus (as of Jan. 9, 2020)

Exhibit 8. Global comparison (Health expenditure as % of GDP in 2018)



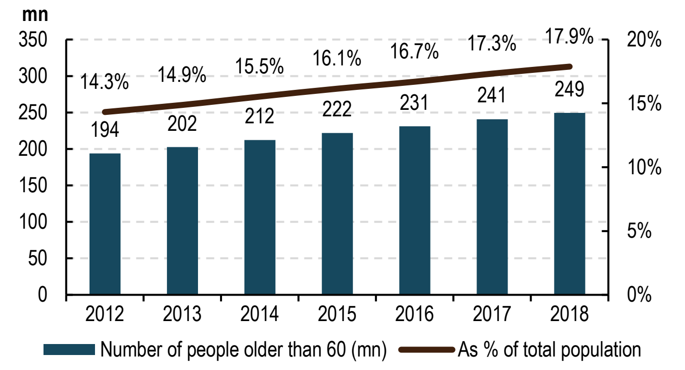
Source: OECD, NBS, Blue Lotus (as of Jan. 9, 2020)

Accelerated population aging and rising prevalence of chronic disease & sub-healthy leave opportunities for health-related services development.

- Elderly population is more likely to experience health complications and generally spend more on healthcare services. China's population continues growing old at a fast pace, given the increased life expectancy and lower fertility rate. The proportion of population aged 60 or older in China was 17.9% in 2018, largely increased from 14.3% in 2012, and China National

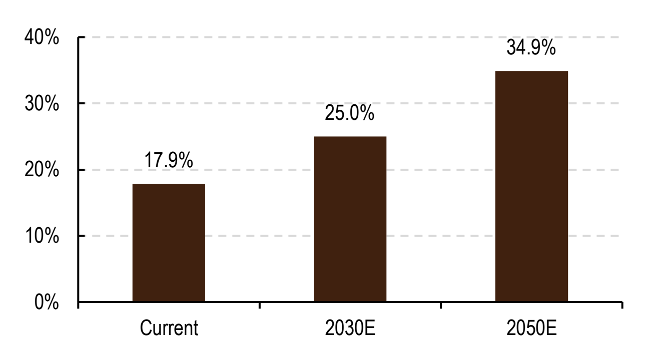
Committee on Ageing (CNCA) expected this proportion to reach 25% and 35% in 2030 and 2050 respectively, of whom demand for medical and pharmaceutical services are typically eight times than that of those aged in their 40s, based on management team from AliHealth.

Exhibit 9. Number of people older than 60 and as % of total



Source: NBS, Blue Lotus (as of Jan. 9, 2020)

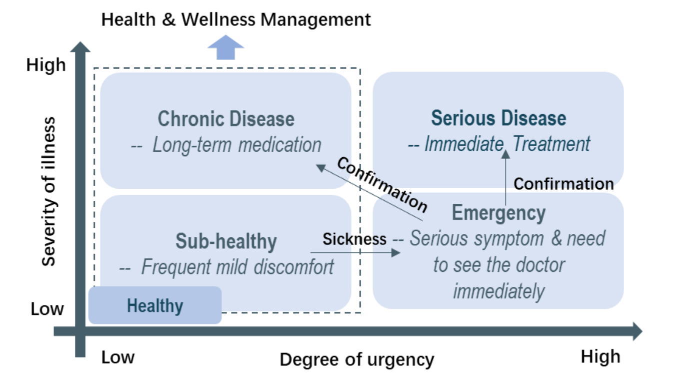
Exhibit 10. Aging population penetration in China



Source: Frost & Sullivan, CNCA, Blue Lotus (as of Jan. 9, 2020)

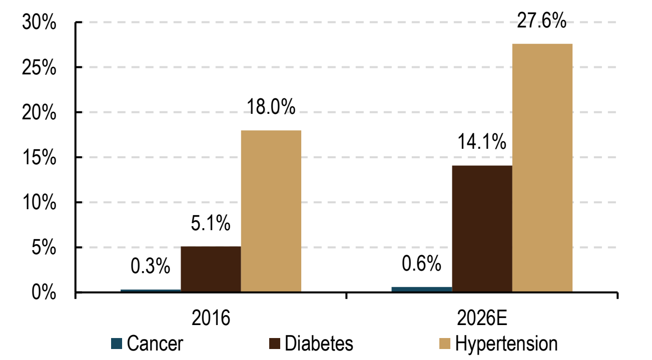
- As the pace of life becomes faster nowadays, a large proportion of Chinese with more physical and mental pressures are suffering from subhealth status and are exposed to higher risks for chronic diseases. According to Frost & Sullivan, the prevalence rate of chronic disease (cancer, diabetes, hypertension) in China were 0.3%, 5.1%, and 18.0%, respectively, in 2016, and was estimated to reach 0.6%, 14.1%, and 27.6% by 2026. Healthcare services would offer them self-monitoring of healthy status, early warning of disease, and even delivering analysis reports instantly, and hence will become increasingly popular among these groups of people.

Exhibit 11. Disease categorization



Source: Local media, Blue Lotus (as of Jan. 9, 2020)

Exhibit 12. Prevalence rate of chronic disease in China



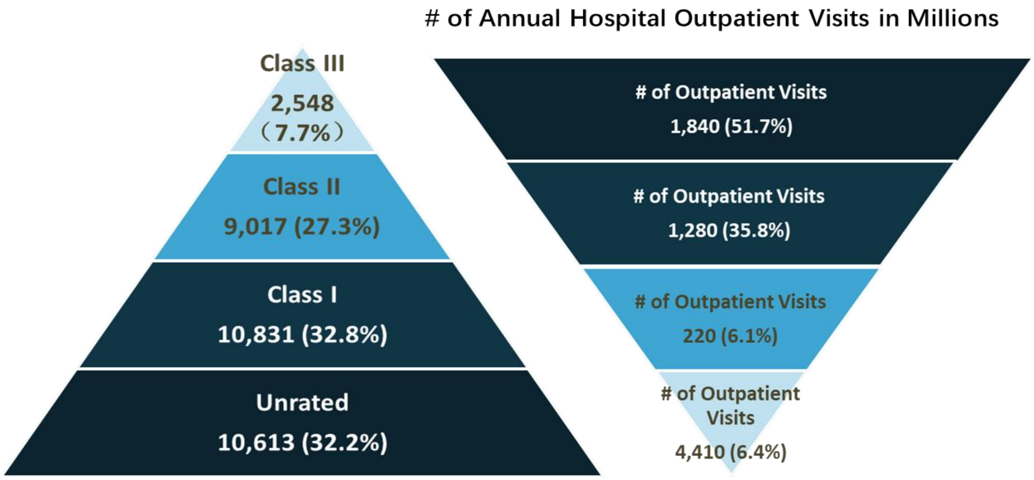
Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Scarcity and skewed distribution of quality medical resources

Medical career seems "unattractive" to graduates. Overall, the number of licensed doctors and registered nurses in 2016 was 4,844 per mn population in China, compared with USA's 12,714 per mn population, reflecting China's large shortage in medical professionals. Moreover, features like higher risk of errors and accidents, knowledge barriers, and under-expected income make it hard to attract new talents into this field and even those medical graduates prefer those positions with high remuneration as well. According to Lancet and National Health Commissions of PRC (NHC), China has accumulated ~5mn medical college graduates over the last decade, but only ~15% of them actually work in hospitals at end.

Structural imbalance needs an overhaul. China's quality medical resources are mainly allocated in Class III hospitals, representing the premium class on expertise and medical quality, management, and technologies. Hence, patients are more willing to seek healthcare services in such large hospitals, regardless of the severity of their conditions, which will lead to a waste of medical resources and market inefficiency. Based on NHC data, the number of Class III hospitals accounted for only 7.7% of the PRC hospitals in 2018, but undertaking 52% medical consultations, reflecting the severely uneven resources distribution issue. From the geographic perspective, the majority of Class III hospitals are located in more affluent or densely populated areas (such as tier one cities or eastern coastal provinces), where generally burdened with excessive medical demand, but those patients in rural areas find it difficult to seek quality medical services in short time.

Exhibit 13. Severe inversion of medical resource and diagnosis demand in 2018



Source: Frost & Sullivan, NHC, Blue Lotus (as of Jan. 9, 2020)

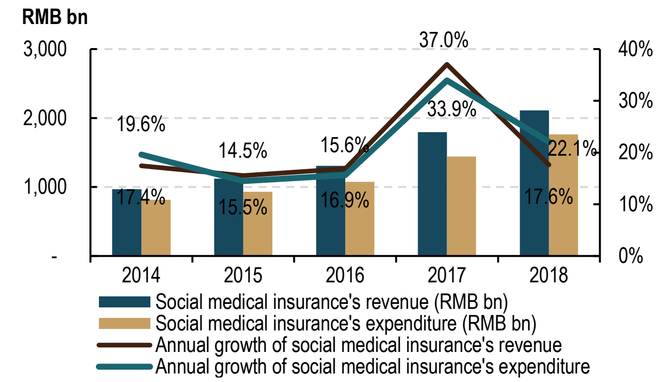
Excessive cost burden on government and patient sides

China's booming healthcare demand not only pose challenges on the supply-side, but on the payment-side as well. In fact, China's healthcare system has insufficient government funding and charged relatively low diagnosis expenses. Hospitals are responsible for their own profits and losses, and therefore they typically subsidize their medical services with overly expensive drug prescriptions, and patients at the end of value chain find themselves in an unfavorably passive position with sky-high medical bills.

- **Estimated social health deficit causing alarm.** According to National Healthcare Security Administration (NHSA) data, the growth of basic social medical insurance expenditure has surpassed that of its revenue in 2018 (See Exhibit 14). Meanwhile, the accumulated remaining balance was RMB 2,323bn, which could only cover one-year expenditure with weak anti-risk capacity, and a deficit was estimated to occur in the next five years assuming no timely and effective cost control measures.

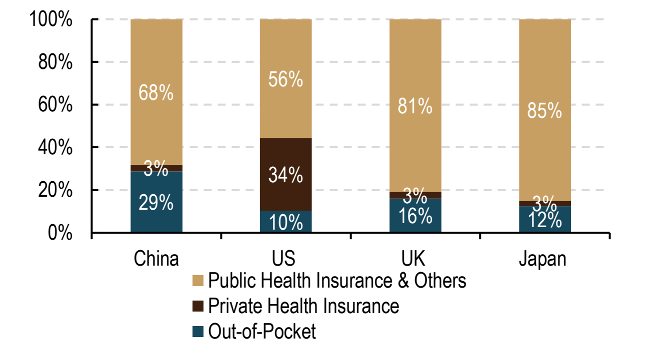
- **High proportion of out-of-pocket spending for national health expenditures.** China's current medical insurance system is primarily composed of government-sponsored social medical insurance and medical aid schemes, and commercial medical insurance offered by private medical insurers. Seeing from Exhibit 15, we found Chinese patients face heavy cost burden as ~ 30% payment are made by out-of-pocket, largely higher than global peers. Social medical insurance only reimburses part of patients' medical expense, and it has been under a lot of pressure with the risk of deficit as we mentioned above, while China's private insurance still develops at an early stage with ~3% contribution of total expenditure. Looking ahead, we expect private insurers are poised to fill the gap and play a more active role in the China's healthcare market.

Exhibit 14. Social medical insurance's revenue and expenditure



Source: NHSA, Blue Lotus (as of Jan. 9, 2020)

Exhibit 15. Health expenditure distribution by source of payment



Source: NHC, CMS, ONS, MHLW, iResearch, EY, Blue Lotus (as of Jan. 9, 2020)

In terms of various parties, the pain points of traditional healthcare market can be summed up as follows:

- **Patient end:** 1) Uneven resource distribution has led in poor medical experience with long waiting time; 2) Diagnosis process are restricted by the location and healthcare seems inaccessible to people who live in rural or isolated communities; and 3) Excessive medical cost places an increasing burden on payers.

- **Doctor end:** Medical physicians are typically facing 1) Heavy workload burden but with unattractive salary, and 2) Disputes of medical claims.

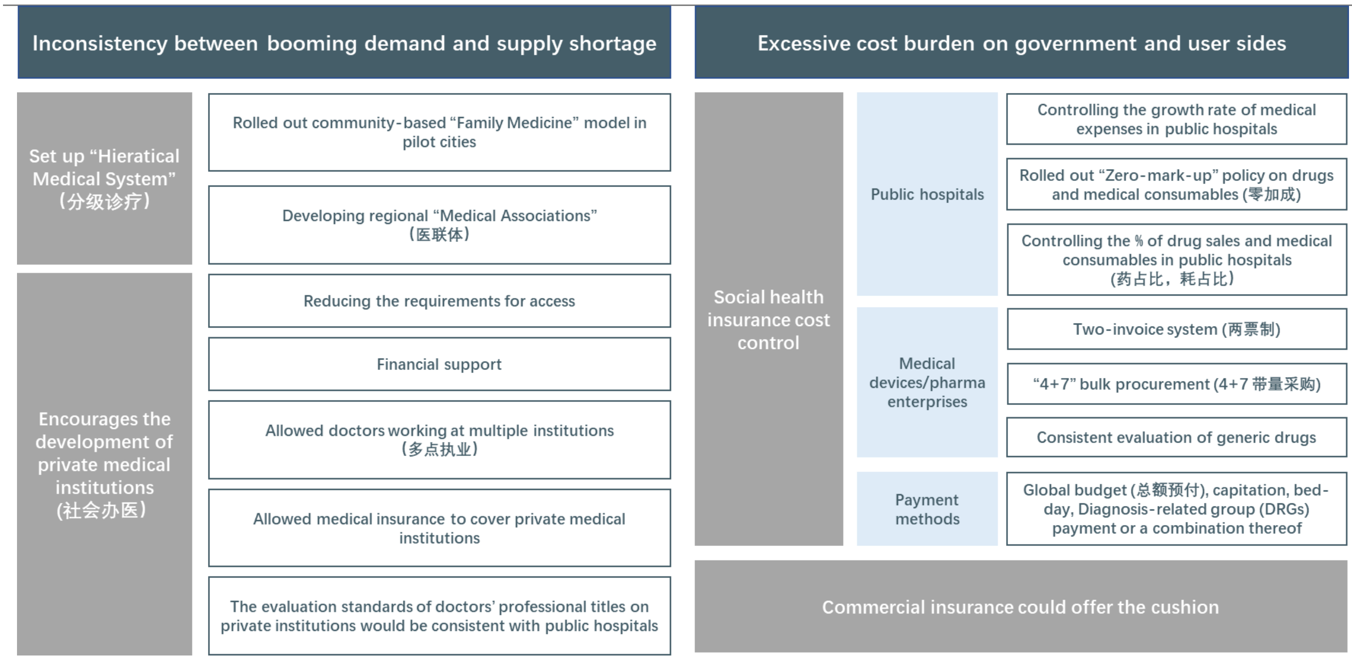
- **Hospital end:** 1) Minor illness might occupy quality resources and result in medical wastage. 2) Large hospitals are overcrowded and occupying majority of high-quality resources, while primary medical institutions are sparsely populated and are generally serious lacking in medical resources.

- **Payment end:** Expected social medical insurance deficit presents large pressure on the government side.

How the internet is improving healthcare?

Government has made consistent efforts to tackle the issues primarily through building hierarchical medical system, promoting the development of private medical institutions, and controlling medical cost, and we think the growing prominence of internet healthcare offers more options and serve as an essential supplement to alleviate the issue.

Exhibit 16. Chinese government's solution path



Source: Local media, Blue Lotus (as of Jan. 9, 2020)

Benefiting from the rapid development of internet-based technologies, online healthcare platforms emerge as an effective solution to raise the efficiency of matching patients with the "right" doctor, bridging the wide gap between China's scarce and unevenly distributed medical resources and surging healthcare demand, and lower patients' medical-related costs. Specifically, it is empowering traditional healthcare industry through:

Offering opportunities for patients to make healthcare more efficient, affordable, better coordinated and closer to home.

- Patients with minor discomfort or living in remote areas are able to initially communicate with physicians via online consultation services and make appointments online compared with the long-line waiting process in the past. In addition, China has over 300mn population with chronic disease, while the internet healthcare companies with e-prescriptions, health mall or even prescription circulation platform come up with a time-saving solution as they no longer need to repeatedly visit offline hospitals for asking prescriptions and collecting drugs.
- Per NHC data, average outpatient's fee excluding drug sales was around RMB162 per visit (including appointments, diagnosis, and surgery fee, etc.), whereas amounts of internet healthcare platforms offer free consultation services for users with common illness. Patients with "light" issues are able to consult with online doctors to decide if they need to go to the

hospital for further treatments, which can reduce "unnecessary" medical-related spend. Besides, the emergence of pharmaceutical eCommerce platforms is expected to facilitate and accelerate the reconstruction of the traditional pharmaceutical value chain to make drug prices more transparent and market-oriented, which will relieve users' financial burden as well.

Placing doctors with channels for making additional income and IP building with manageable databases.

- Post the release of multi-institution practice policy (多点执业), doctors are allowed to practice at multiple facilities, which offer them with additional channels to earn money, and working in several internet healthcare platforms will help rapidly build their own IP and online reputation.
- The adoption of internet platforms makes it easier to interact with patients without being restricted by time and location, together with electronic medical records for easier illness case tracking, and thus medical claims disputes would be reduced.

Raising hospitals' operational efficiency and lead to a more "balanced" distribution.

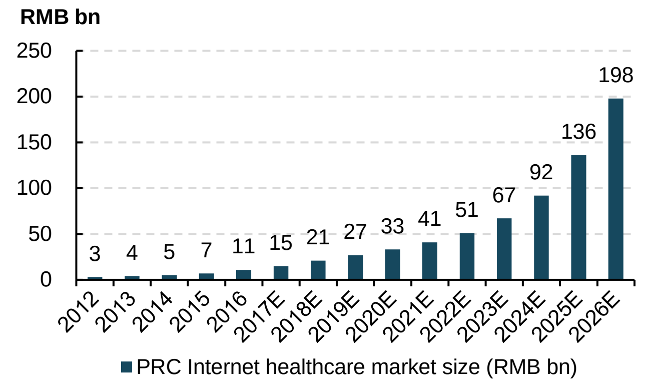
- Hierarchical medical system (medical institutions at various levels receive patients based on the degree and urgency of the diseases they have) is typically regarded as the key to solve insufficient and unbalanced medical recourse in China. The emergence of online appointments and consultation will help reduce burden of large hospitals. With these services, people with simple health issues can directly consult online and thus will reduce unnecessary waste of hospital resources.
- Through remote diagnosis, those doctors at more advanced hospitals can participate in online medical conferences with lower-level institutions and help medical professionals in primary medical institutions to improve the quality of their service and then to better serve users in remote areas.
- Hospitals are capable of leveraging the internet-based big data and advanced technology to digitize the whole medical cycle, shorten the conventional diagnostic process and improve the operational efficiency.

Which monetization method is the best choice for internet platforms?

Internet healthcare platforms mainly monetize traffic via online consultations, pharmaceutical eCommerce, consumer healthcare, and ad businesses. In our view, online consultation would be mostly adopted by internet platforms to obtain traffics but the low unit price and consumption frequency make it hard to become a large-scale business, while pharmaceutical eCommerce and consumer healthcare businesses with higher consumption frequency are poised for robust growth and appear as more effective ways for further monetization.

China internet healthcare is expected to grow rapidly. According to Frost & Sullivan, China's internet healthcare market grew at a CAGR of 39% during 2012-2016 and was projected to continue growing rapidly to reach RMB 198bn in 2026, owing to a surging healthcare demand and favorable government policies.

Exhibit 17. Internet healthcare market size (RMB bn)



Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Exhibit 18. Internet healthcare market major composition

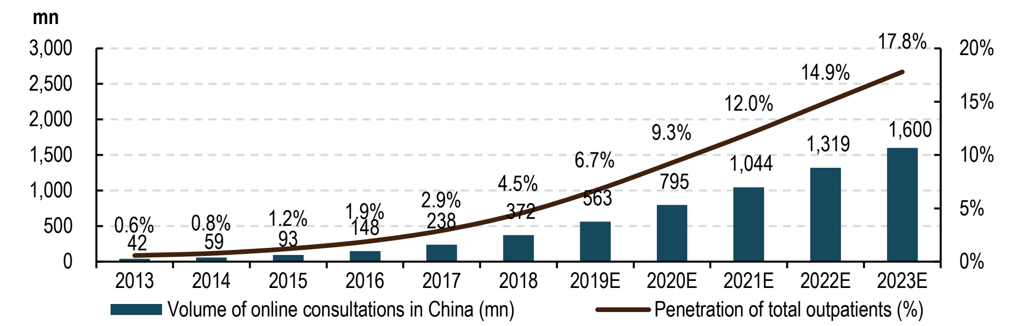
Main ways of monetization	Estimated market size
Online consultation	~RMB 3bn
Pharmaceutical eCommerce	~RMB 10bn
Online consumer healthcare	~ RMB 2bn
Online healthcare ad & marketing	~RMB 2bn

Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Online consultations are good at traffic acquisition rather than monetization

We expect online consultation market size to be roughly at RMB 3bn, assuming a 25% paid consultation and RMB 20 ASP, and will grew more than 40% CAGR to reach ~RMB 12bn by 2023. Frost & Sullivan reported the total volume of online consultations was 372mn in 2018, and is estimated to reach 1.6bn by 2023, with a penetration rate of 17.8%, primarily driven by the fast-growing number of internet hospitals, and more paying users as newly released policy incorporates online consultation services into social insurance coverage.

Exhibit 19. Volume of online consultation in China (mn)



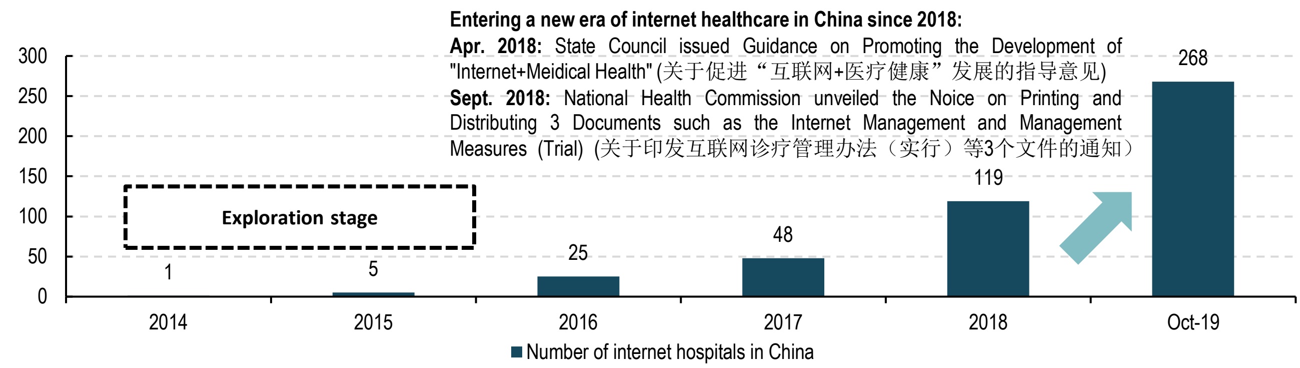
Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

- **Rapid growing number of internet hospitals pave the foundation for the further development of online consultation services.**

  Formerly, internet healthcare platforms mainly offer consultation services and do not involve in any diagnosis process, and the emergence of internet hospitals offers internet healthcare users with more possibilities, such as follow-up treatments, remote diagnosis, and distributing electronic prescriptions, and hence amounts of internet healthcare platforms aim to set up their own internet hospitals for wider service offerings.

  Over the past few years, Chinese regulators have gradually granted "greenlight" to internet hospitals and speeded up the release of government guidelines on online medical services, drawing up requirements and procedures to apply for running internet hospitals. The year 2018 is a critical year for internet healthcare platforms in China. In April 2018, China State Council published detailed guidelines reiterating the government's support in the development of "Internet + Healthcare" in China, and clearly noted to encourage medical practice through internet hospitals, electronic prescriptions, as well as online sales and offline fulfilment of pharmaceutical products, driving the fast-developing internet medical care sector to a new height. China's medical authority disclosed China's number of internet hospitals reached 269 by October 2019, and we think it will continue growing and bring substantial opportunities to online consultation or treatment services to further address the congestion in large urban hospitals amid the digital tide.

Exhibit 20. Rapid growing number of internet hospitals in China



Source: Qianzhan.com, ebrun.com, Blue Lotus (as of Jan. 9, 2020)

- **Newly-released policy of incorporating online diagnosis and treatment services into medical system would be the catalyst over the medium and long term.** On August 30th 2019, the National Healthcare Security Administration (NHSA) released the Guiding Opinions on Improving the Policies on the Pricing of "Internet+" Medical Services and Medical Insurance Payment (《关于完善互联网+医疗服务价格和医保支付政策的指导意见》). It mentioned that social healthcare insurance will start to cover internet diagnosis and treatment services fees and charges. We believe allowing medical insurance payment for online consultation services will educate users to enjoy healthcare services through online channels, and thus bringing more incremental revenue to internet healthcare services providers.

However, online consultations might not act as an effective way of monetization…

- **Online consultation might work as a complement rather than replacement.** Online consultations are mainly suitable for solving mild problems or common diseases, while it is hard to diagnose serious diseases, so that for those users with serious symptoms, the best choice is to go to a hospital. Thus, most online consultations belong to "light" consultations and will be mainly acted as a complement of hospitals rather than a replacement, and that's why the majority internet platforms adopt this service as the role of "traffic director," namely directing to other business (such as pharmaceutical eCommerce), or referring them to their partnered hospitals or medical institutions.

- **Infrequent consumption + Low ASP= Small revenue contribution.** Generally speaking, the number of users with disease will not exceed 12 times a year, and average number outpatients for user was only 6 times on an annual basis, among which patients with severe disease will directly go to the hospital, and only a small portion of users will consult with internet healthcare platforms. Additionally, users with common issues will comply with the previous guidance rather than repeatedly using the app. People generally have low brand awareness for healthcare services, and their healthcare demand tends to be more passive, thereby it is hard to arouse user interests via common marketing channels. On the other hand, online consultation services are mostly free in order to acquire users at the initial stage, even those online treatment or diagnosis offered by medical professionals generally count RMB 20 per consultation. We think online consultation services' low-frequency nature combined with low unit price make it difficult to contribute a large revenue stream for internet healthcare companies.

As a result, vast internet healthcare platforms are looking for other ways to further covert users into payers. Pharmaceutical eCommerce, consumer healthcare services with higher consumption frequency, look like a twilight in the dark for internet healthcare players.

Online pharma B2C business is poised for strong growth

Previously, enterprises that want to engage in providing drug transaction services over the internet have to obtain an Internet Drug Transaction Qualification Certificate (互联网药品交易服务资格证书), which had three types: A, B, and C certificate for different enterprises. Since 2017, China's government successively cancelled the approval of three types of Internet Drug Transaction Qualification Certificate, implying the transition from mandatory approval system to filing-for-records system, and signaling that government gradually lowered barriers to support further development of the pharmaceutical eCommerce business.

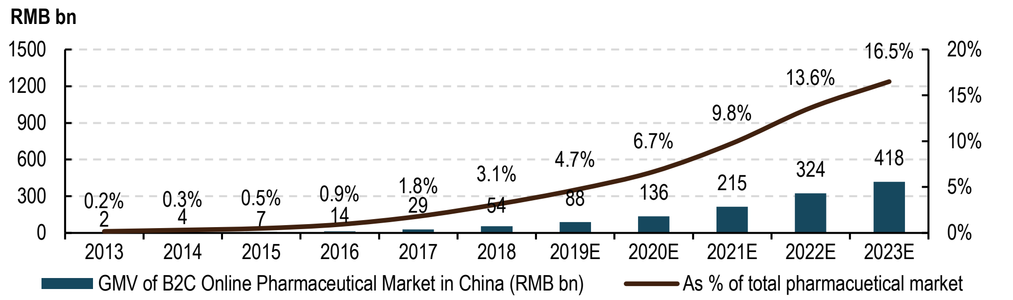
Exhibit 21. Previous Internet Drug Transaction Qualification Certificate categorization

Types	Suitability	Cancellation time
A certificate	Enterprises that provide drug transaction services to pharmaceutical manufactures, pharmaceutical operation enterprises and medical institutions.	Sept. 2017
B certificate	Pharmaceutical manufacturers and pharmaceutical wholesale enterprises that deal with other 3rd party enterprises via their own websites.	Apr. 2017
C certificate	The pharmaceutical retail chain enterprises that provide OTC drug transaction services for individual consumers via the internet.	Apr. 2017

Source: 111 Group's prospectus, Blue Lotus (as of Jan. 9, 2020)

China's pharmaceutical eCommerce industry has experienced rapid growth over the past several years. According to Frost & Sullivan, GMV of B2C online pharmaceutical market in China was RMB 54bn in 2018, representing a 3.1% online penetration of total pharmaceutical market, and we believe the market will continue its robust growth momentum to reach RMB 418bn by 2023 (with 16.5% online penetration), thanks to the growing industry demand and favorable policies such as the continued prescription drugs outflow and the gradual decontrol of online prescription drugs sales.

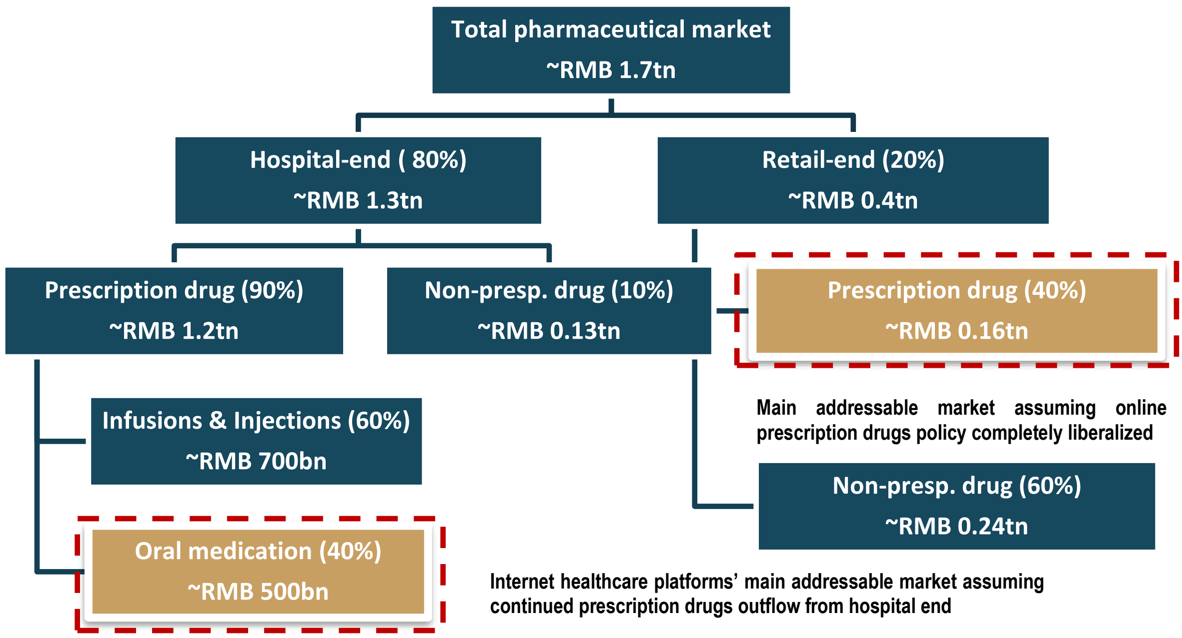
Exhibit 22. GMV of B2C online pharmaceutical market in China (RMB bn)



Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

- **Continued "Prescription Outflow" presents great opportunities to retail terminal and online.** The government came out with "separation between medical and pharmaceutical services" (医药分家) since 2009, to change the situation where hospitals subsidize their medical services with overly expensive drug prescriptions and accelerate the outflow of prescription drugs from hospitals, through continuously releasing policies such as Zero Mark-up (零加成), Drug Sales Proportion Control (控制药占比), Two Invoice System (两票制), 4+7 Bulk Procurement ("4+7" 药品带量采购), and Quality Consistency Evaluation for Generic Drugs (仿制药一致性评价), and the policy details can be founded in Appendix 2. Currently, hospital terminal remains dominating pharmaceutical sales and drug prescription in China, indicating large potential for further outflows to retail terminal. According to MENET data, the retail pharmacy channel only accounted for ~20% of total pharmaceutical sales in China in 2018 (as compared with ~80% in the US), and we believe the ongoing outflow of prescription drugs from hospitals will bring additional growth opportunities for the pharmaceutical eCommerce platforms.

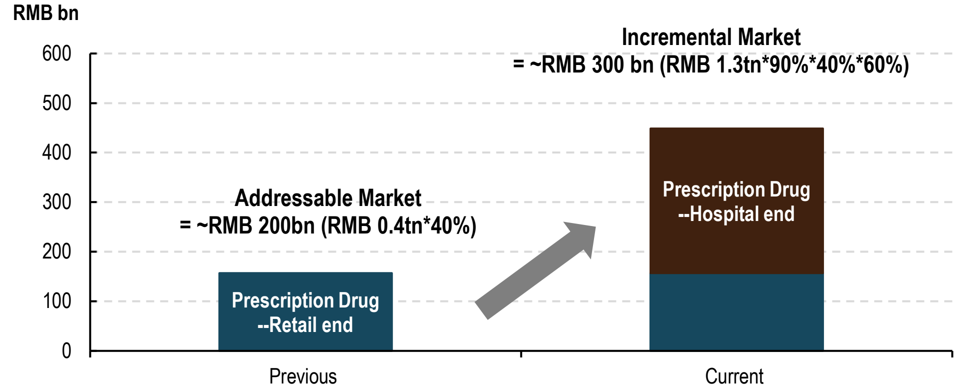
Exhibit 23. Pharmaceutical market segmentation (based on market size in 2018)



Source: Menet.com, IQVIA Data, Blue Lotus (as of Jan. 9, 2020)

Chronic-disease related prescriptions will be the main battlefield and are estimated to bring ~RMB 300bn incremental market. The prescription drug sales in hospitals can be distributed into infusions & injections, and oral medication, among which, inpatient-related prescriptions (mostly refer to injectable drugs) are hard to outflow from hospitals, and we think outpatient pharmacy sales (mostly oral medication) will be more likely to be transitioned to the retail terminal, particularly those related to chronic disease with frequent consumption and lower risk. Seeing from Exhibit 23 & 24, prescription drug sales in hospitals were roughly at RMB 1.2tn in 2018, with nearly RMB 500bn generated from outpatient non-injection drugs. Assuming 40% of them flowing to hospital-nearby pharmacies, and the remaining chronic-disease related will bring an incremental value of ~RMB 300bn, of which pharmaceutical B2C channels would be the main beneficiary.

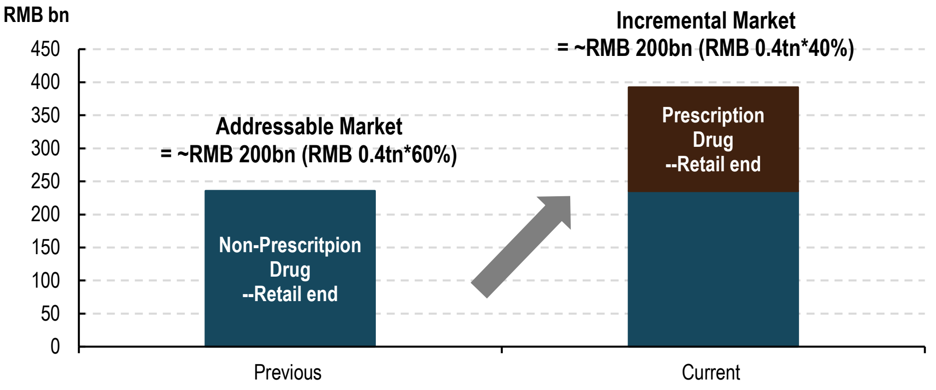
Exhibit 24. Incremental market from accelerated prescription drug outflow



Source: Menet.com, IQVIA Data, Blue Lotus (as of Jan. 9, 2020)

- **Online prescription drug sales are poised to be completely liberalized, with ~RMB 200bn incremental market for further acquisition.** In August 2019, China's New Drug Administration Law was approved by vote and was executed since Dec. 1st, 2019. To be noticed, previous guidance of "Prescription drugs are not allowed to sell through third-party online platforms" has been removed, instead adding "the regulation of online drug sales should be consistent with offline sales", reflecting government's easing policy on online prescription drug sales. According to MENET.com, total pharmaceutical sales via retail channels were RMB 392bn in 2018, and the main addressable market for pharmaceutical eCommerce platforms previously was non-prescription drugs, contributing ~60% of total (RMB 235bn), and the decontrol online prescription drug sales will bring an incremental value of RMB 157bn. However, as the decontrol of prescribed drug sales will be gradual. The removal of suspension on online drug sales was the governments' overall guidance, and it still takes such period of time for local authorities to carry out detailed rules and regulations, and hence the anticipated growth of the pharmaceutical eCommerce market will be steady compared to the explosive growth seen in the traditional eCommerce industry.

Exhibit 25. Incremental market from the decontrol of online prescription drug sales



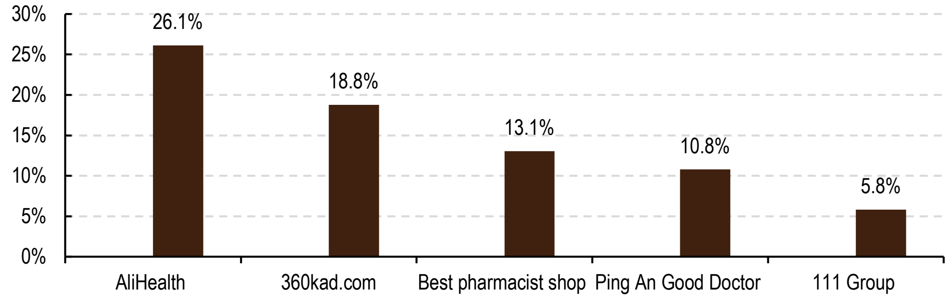
Source: Menet.com, IQVIA Data, Blue Lotus (as of Jan. 9, 2020)

- **Non-prescribed drugs are fulfilling rising demand from consumers as well.** Frost & Sullivan disclosed that the GMV of the PRC pharmaceutical B2C business excluding prescription drugs increased from RMB 2bn to RMB 20bn during 2012-2016, and we view non-prescribed drugs sales through the online channel will keep growing, given the rising demand from consumers from further improvements in logistics, less time-based limits, and the development of customers' online shopping habits.

- **Near-term rising online consultations from the integrating into insurance coverage will offer additional upsides**. Government has permitted online consultation and diagnosis process to be included in medical insurance overage since July 2019. Most internet healthcare platforms operate online consultation services bundled with pharmaceutical eCommerce business, and thus we believe a near-term surging number of online consultations will direct amounts of traffic to pharmaceutical B2C channels as well. Asides from this, the new policy of incorporating online consultation to social insurance system will potentially be applied in online drug sales in the future, and we believe this can be a new revenue growth engine for internet companies with pharmaceutical eCommerce business going forward.

Pharmaceutical B2C eCommerce might be an effective way to monetize traffic, but the profitability will come with economies of scale… Pharmaceutical B2C channels will enjoy the industry tailwind along with relative high purchase frequency demand from the consumer end. We are long-term positive to pharmaceutical eCommerce players but still need time to see economies of scale given their low margin nature. From the following table, we calculated the average gross margin of several listing pharmaceutical eCommerce companies to be ~15%, amid the intensified industry competition, and high fulfilment cost, together with government's drug prices control. Relatively low gross margin implies the limited room on further cost control, and hence we expect the pharmaceutical eCommerce market will further consolidate and main players with defensive barriers will see profitability from the economic scales over time given the bright prospects of internet healthcare industry.

Exhibit 26. GPM comparison among various pharmaceutical eCommerce companies



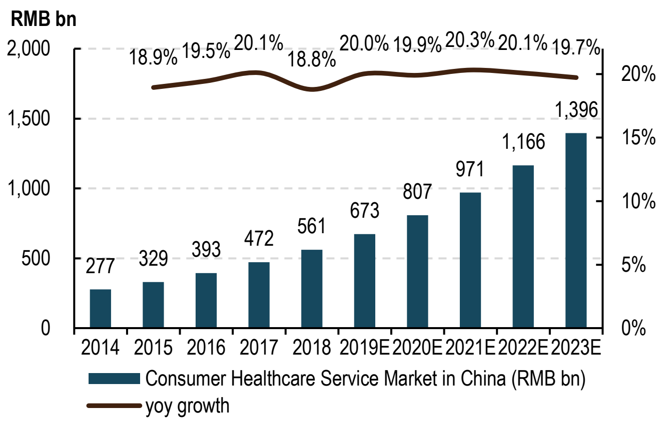
Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Consumer healthcare brings new opportunities

Consumer healthcare mostly refers to elective medical services, primarily aimed at improving people's quality of life rather than treating serious diseases, and consumers' interest in the alternative healthcare services is growing, alongside rising per capita disposable income and an increasingly health-conscious population. According to Frost & Sullivan, China's total revenues from consumer healthcare services industry in China was RMB 561bn in 2018, and is estimated to grow at a 20% 5-yr CAGR to RMB 1,396bn by 2023.

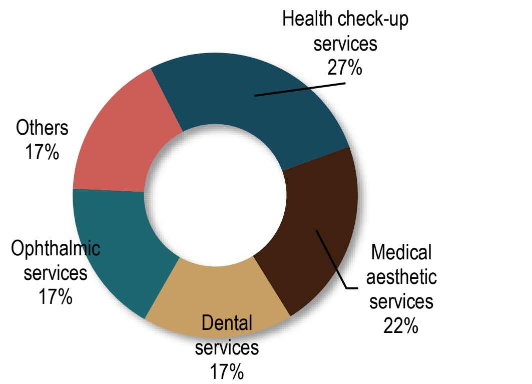
Market is highly fragmented and mainly made of health check-up, medical aesthetic, dental care, and ophthalmic services, correspondingly contributing about 27%, 22%, 17%, and 17% of total consumer healthcare market in China, per our estimates. We expect health check-up, medical aesthetic services, and dental care services will bring new opportunities and contribute more revenue to internet healthcare platforms as service providers are increasing spending to acquire customers through online channels.

Exhibit 27. Consumer healthcare market size and annual growth



Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Exhibit 28. Fragmented market segmentation (2018)

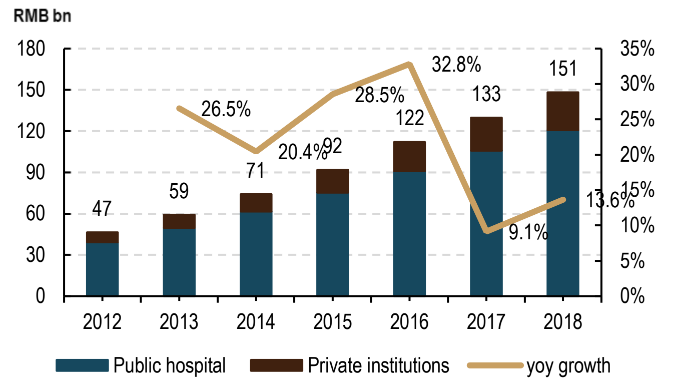


Source: Frost & Sullivan, iiMedia, Qianzhan.com, Blue Lotus (as of Jan. 9, 2020)

- **Health check-up services, the largest revenue component, will maintain stable growth**

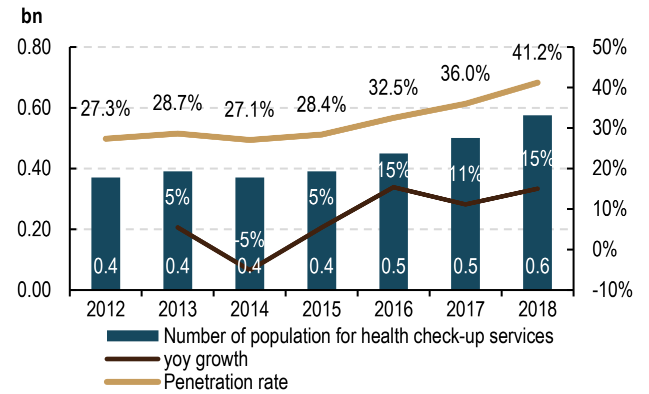
iiMedia reported China's health check-up market has been stabilized and grew 14% YoY to reach RMB 151bn in 2018, of which public hospitals occupy a majority share of roughly 80%. Over the past five years, we observe an increasing number of people undergoing physical examinations with 41.2% penetration rate in 2018, which still far lagged behind than more than 70% in the developed market. Internet healthcare platforms engage in health check-up services typically via collaborating with offline partners and selling customized packages to individuals or corporate side, and we expect internet healthcare platforms to continue benefiting from overall health check-up market's steady growth as people's rising healthcare awareness and budget allocation going forward.

Exhibit 29. China's health check-up market size (RMB bn)



Source: iiMedia, Blue Lotus (as of Jan. 9, 2020)

Exhibit 30. China's health check-up population (bn)



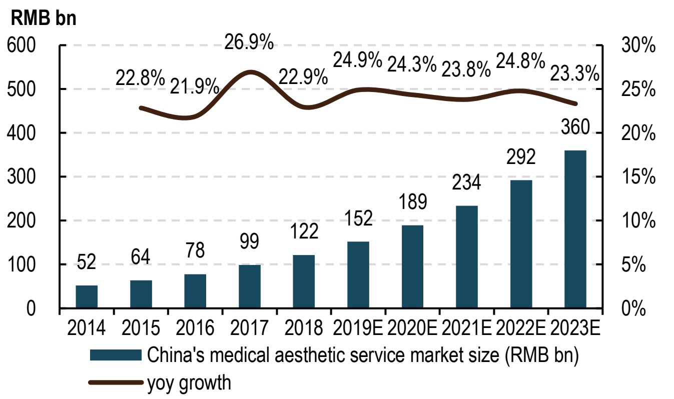
Source: iiMedia, NBS, Blue Lotus (as of Jan. 9, 2020)

- **Medical aesthetic services, the fastest growth segment, become the consumption hotspot**

– **Unsaturated medical aesthetic services with substantial upside potential**

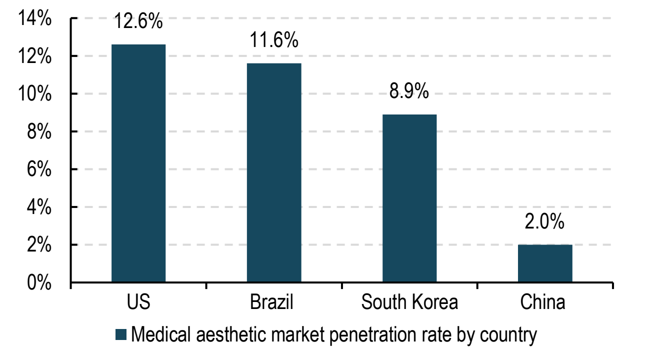
People turn to be more focused on the appearance as the improving disposable income and technology. Medical aesthetic services are the fastest growth segment among consumer healthcare industry and reached RMB 122bn in 2018 with nearly 24% 4-yr CAGR, as per Frost & Sullivan. Overall, China has more than 20mn medical aesthetic users, implying merely 2% penetration, less than 1/5 of those in developed market, and we expect medical aesthetic services to maintain a double-digit growth in the next 5 years.

Exhibit 31. Medical aesthetic market size (RMB bn)



Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Exhibit 32. Medical beauty market penetration by country



Source: ISAPS, iGengmei, Blue Lotus (as of Jan. 9, 2020)

Internet healthcare platforms can act as an information aggregator connecting both customers and medical institutions, typically monetizing the traffic via ad business or collecting commissions from transaction services.

– **Online healthcare platforms serve as an additional user acquisition channel with premise marketing and higher conversion**

China's medical aesthetic institutions are highly fragmented and face a high level of competition. As per Frost & Sullivan, there were approximately 10,000 medical aesthetic service providers in 2018, whereas private institutions contributed 81.5% of total, and the top five players of private institutions merely accounted for 7.4%. Consequently, they have to pour large amounts of money into sales and marketing and thus have high user acquisition cost. Online channels still dominated by Baidu search engine, which are extremely expensive especially for those small to medium clinics, and we expect there will be more ad budget shifting to internet healthcare or vertical platforms, which typically have more industry expertise and premise target audience.

– **Information asymmetry leaves huge opportunity for internet platforms**

From the perspective of the consumer side, a large portion of private institutions are unqualified, and the number of those "black" clinics are almost six times than those qualified one, based on iGengmei's report. The high risk of cosmetic medical and surgical procedures leads to a higher need from the consumer end in obtaining reliable information, and the emergence of internet healthcare platforms can offer users with information about verified license, trackable medical devices or injections, knowledge or examples of each procedure, and transparent price for better comparison.

- **Dental services** can be separated with disease and consumer-oriented, of which disease-oriented refers to those leading to toothache, and users' demand are more passive and it is hard to acquire users through online marketing campaigns. Those consumer-centric services, such as orthodontics and teeth whitening treatments, are similar with medical beauty services, as most people make purchases with the purpose of appearance improvement. Consumers will generally get better results if they pay more and the demand seems much easier to be aroused by online ads or content community. Therefore, we think consumer-oriented dental services are more accessible for internet healthcare platforms, but it is still in an early development stage.

- **Ophthalmic services** are mostly oriented by disease, and we view it typically relies heavily on medical devices and has a high entry barrier. The treatments or surgical procedures in this segment would be mostly operated by public hospitals or professional private intuitions, and we think it might not be the main target for most internet healthcare platforms currently.

Case study: how does China's health insurance system compare to US?

Key business models of US's health insurance industry

US's health insurance payment systems can be distributed into Fee-for-Service (FFS) and Managed Care. Traditionally, US dominated by **Fee-for-Service** payment model, which grants users with the greatest flexibility to select any doctors and any hospitals they want, and subscribers pay for services when rendered and then submit the bill to insurers for reimbursement. This conventional plan offers people exceptionally convenience but are typically costly, and result in excessive medical treatments. It is because physicians' (which are separated with insurers) earnings are dependent on the medical bills and will have financial incentive to maximize the services delivered to patients.

As the rising healthcare demand and spending since 1970s, US health insurance system has been gradually shifting to **Managed Care** plans for better medical cost control and resource utilization. The model connects the benefit of insurers with healthcare service providers, and two parities jointly owned the health plan and are responsible for coordinating beneficiaries' health. Additionally, it involves an arrangement between the insurer and a selected network of healthcare providers, so that they offer policyholders with financial incentives to use the providers within the network. It can be separated into three types (See Exhibit 33), of which Health Maintenance Organization (HMO) is the most typical representative.

Exhibit 33. Managed care categorization

Type of Managed Care	Features
HMO (Health Maintenance Organization)	Only pay for care within the network
PPO (Preferred Provider Organizations)	Usually pay more if you get care within the network, and they still pay part of the cost if users go outside the network
POS (Point-of-Service)	Choose between an HMO or a PPO each time you need care

Source: SlidePlayer, Blue Lotus (as of Jan. 9, 2020)

Exhibit 34. HMO categorization

Types of HMO	Features
Staff model	All doctors are employed and/or contracted directly by the HMO
Group model	HMO contracts with an independent group to provider services
Network model	More than one independent group is contracted to provide services
Independent practice association (IPA)	HMO contracts several doctors in independent practice

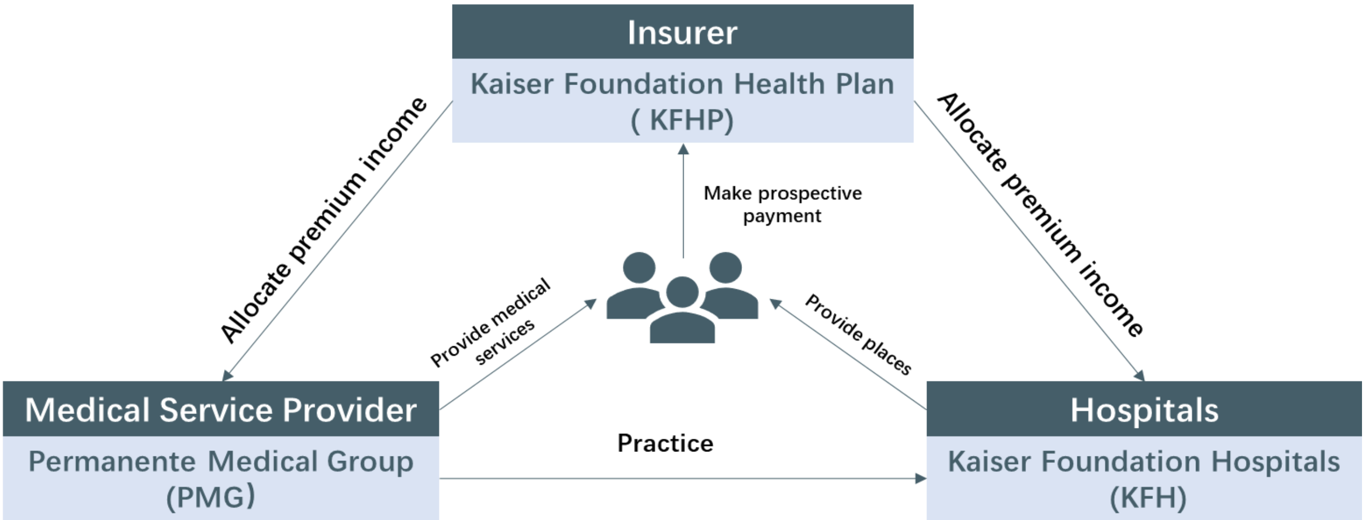
Source: SlidePlayer, Blue Lotus (as of Jan. 9, 2020)

In fact, HMO operates in four different models (See Exhibit 34), and we take the earliest and largest ancestor, Kaiser Permanente (with staff model), as an example to see what does it work.

Take Kaiser Permanente as an example….

Kaiser Permanente defines an integrated model of healthcare financing and delivery through its unique partnership among three entities: 1) **Kaiser Foundation Health Plan (KFHP)**, issuing prepaid health plans and insurance; 2) **Kaiser Foundation Hospitals (KFH)**, operating Kaiser Permanente's medical centres and providing infrastructure and facilities that benefit the medical groups; and 3) **Permanente Medical Group (PMG)**, providing and arranging medical care services for health plan members. Subscribers purchase medical health plan (insurance) and make prospective payment to KFHP. In turn, KFHP pays KFH and PMG based on capitation, the type of diseases, or days of inpatients. Members would be assigned to the general practitioners for the initial consultation (typically solving 80%-90% of patients' issues), and the remaining 10%-20% will be transferred to the specialist.

Exhibit 35. Kaiser Permanente business model ("Insurance + Medical service")



Source: Kaiser Permanente, Edge Ventures, iyiou.com, Blue Lotus (as of Jan. 9, 2020)

As of December 2018, Kaiser Permanente served 12.2mn members, and have 217k employees, 22k physicians, 39 hospitals, and 694 medical office buildings. During 2018, Kaiser Foundation Health Plan, Kaiser Foundation Hospitals and their respective subsidiaries reported a combined operating revenues and net income of US$ 79.7bn/ US$ 2.5bn. Kaiser's unique model delivers an integrated service package in an efficient and low-cost manner, meanwhile reaching a balance among each party's underlying interests within the Group.

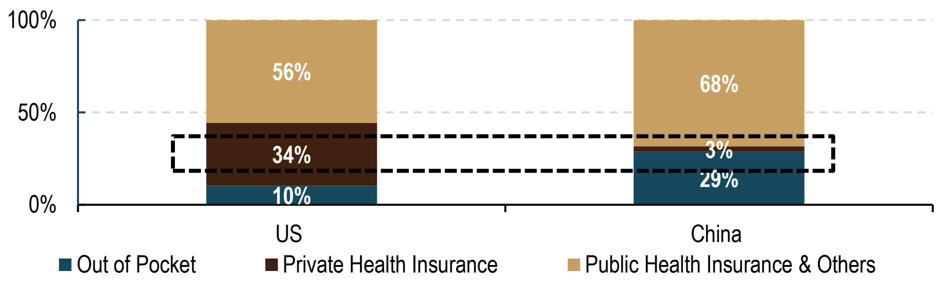
- **Healthcare service providers** or physicians will have financial incentives to control medical cost and offer higher quality services simultaneously. Because their benefits are linked with insurers, they will not over-user medical resource for higher income as in traditional models. Instead, they want to provide better care as the rising proportion of healthy patients will result in fewer claims.
- **Insurers** will obtain amounts of users' health data, thus will be less likely to be cheated by claimants who might exaggerate claims via falsified medical history. Also, they can easier monitor patients' health status, which will help set up customized health plans for members and build its defensive moat as well.
- **Health plan members** will get cheaper medical bills with better physical condition. Users need to pay an annual subscription fee of ~US$ 500 to become the health plan member, then selecting the specific service package and make payment in advance. Afterwards, members only need to pay US$ 20/outpatient visit (US$ 100/outpatient visit for non-members) and US$ 100/inpatient day (US$ 800-1,500/inpatient day for non-members), which are much cheaper than traditional fee-for-services health plan. Additionally, the goal of healthcare service providers and insurers are unified, thus members will become healthier through the higher quality of healthcare services.

Can Kaiser Permanente's success be replicated in China?

The greatest success of Kaiser Permanente lies on controlling medical cost. China's insurance system is facing significant cost burden as well, but we didn't see any private insurance companies to successfully develop HMO at current stage, and we think it is mainly attributable to:

- **China's private health insurance system still in its infancy.** According to Centres for Medicare & Medicaid Services (CMS), nearly 34% of health expenditures in the US are paid by private insurance companies, thus private insurers will have strong motivation to promote HMO and wellness management health plan in order to control medical cost and reduce medical claims. However, China's commercial health insurance payment system still develops at an early stage with merely 3% penetration rate of total health expenditures in 2018, while 68% of payment made by public health insurance and others, based on NHSA. Therefore, commercial insurers are in a weak position for medical cost control and are lack of incentives to promote this type of model.

Exhibit 36. Payment structure in 2018 (China vs. U.S.)



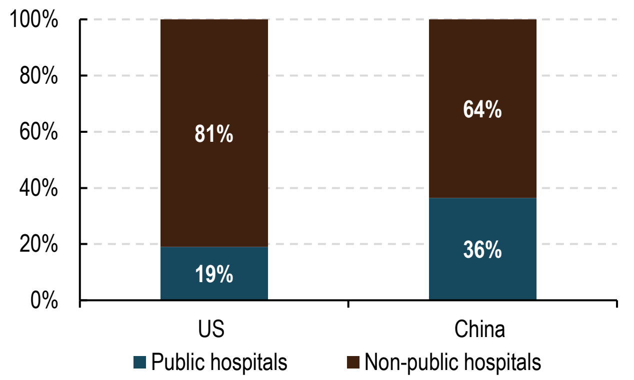
Source: CMS, NHSA, Blue Lotus (as of Jan. 9, 2020)

- **Hard to build their own medical service network.** Private insurers have to set up their own medical service networks in order to deliver medical care services, mainly through developing in-house hospitals, and acquiring or signing into exclusive contracts with private medical institutions or medical groups.

  1) Building in-house hospitals need plenty of time and a large capital investment in medical infrastructures and facilities, and it is difficult for them to acquire doctors from public hospitals given they are not purely money-oriented and large hospitals typically offer a better career path.

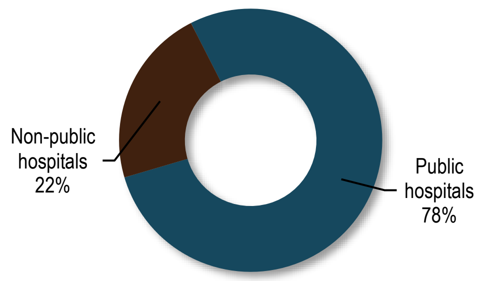
  2) Another way for them is to acquire or enter into exclusive agreements with private medical institutions or medical groups, but China's uneven medical resource distribution (primarily refers to physicians and advanced medical devices are concentrated in large public hospitals) impedes the development of private institutions and medical groups. According to NHC data, China's public hospitals occupied 78% of total medical staffs in 2018, while only 22% distributed in private hospitals. Besides, China's private medical groups are still in an early-development phase, and the number of total medical groups in China was up to 2,055 as of November 2019, based on Yi Yi Tuan. In comparison, only 8% of total US's physicians worked directly for hospitals in 2018, while more than 80% physicians engaged medical services through sole practice, single specialty group or multi-specialty group (See Exhibit 40), per American Medical Association (AMA).

Exhibit 37. Number of public/private hospitals distribution



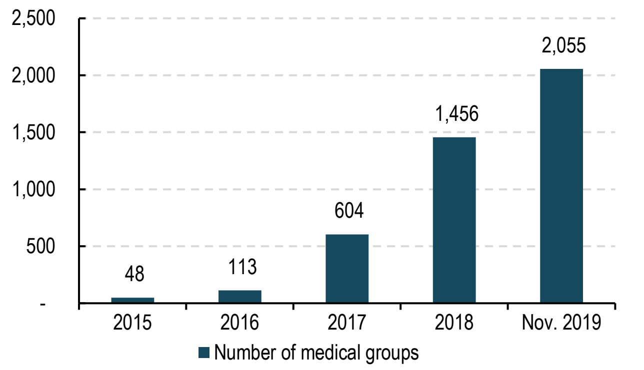
Source: AHA, NHC, Blue Lotus (as of Jan. 9, 2020)

Exhibit 38. Medical staff distribution in China



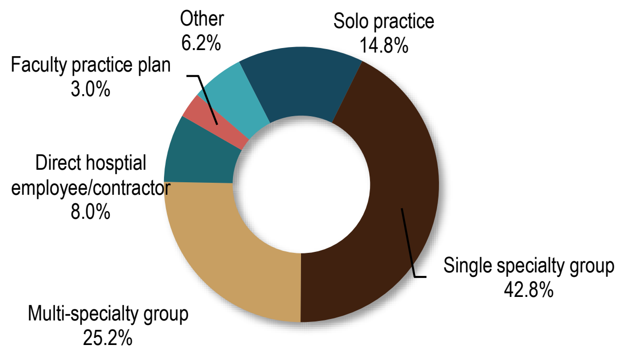
Source: NHC, Blue Lotus (as of Jan. 9, 2020)

Exhibit 39. Number of medical groups in China



Source: Yi Yi Tuan, Blue Lotus (as of Jan. 9, 2020)

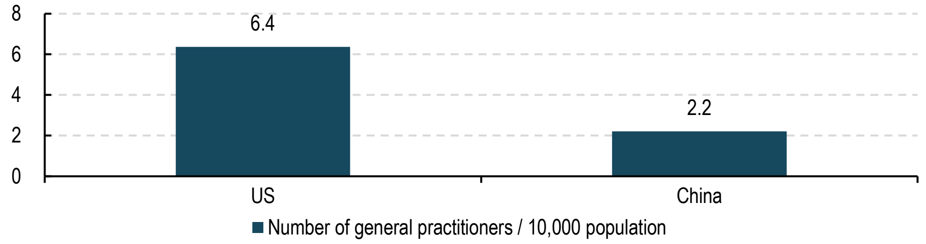
Exhibit 40. Distribution of US's physicians by type of practice



Source: AMA, Blue Lotus (as of Jan. 9, 2020)

- **Shortage in general practitioners make it hard conduct hieratical medical treatments.** Under the Managed Care model, subscribers regularly see primary care physicians at first, and only those hard or complicated cases will be directed to specialists for further treatments, which is quite efficient and reduce the waste of resource. However, China are lack of general practitioners (GP). According to NHC and CMS data, we calculated the number of GP per 10,000 population in China reached 2.2 by 2018, roughly 1/3 of US's 6.4 GPs/10,000 population, which presents difficulties to private insurers to operate Managed Care services.

Exhibit 41. Number of general practitioners in 2018 (China vs. U.S.)



Source: NHC, Sohu.com, Blue Lotus (as of Jan. 9, 2020)

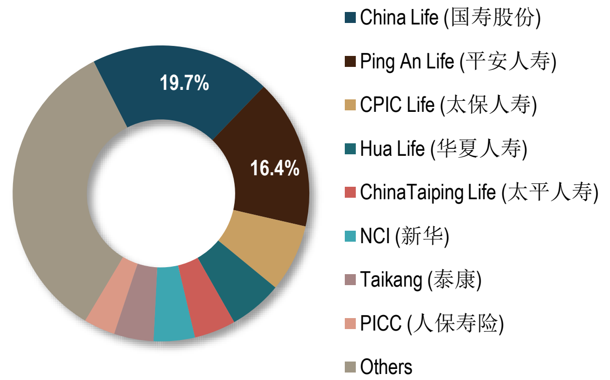
In the near term, China's private insurers still face amounts of obstacles on the path of developing Managed Care health plan, given the immaturity of commercial health insurance, and private medical institution or medical groups, as well as the scarcity of general practitioners. However, the concern on social health insurance deficit will make cost control to be the key theme in the mid to long term. We believe the deepening medical reform will lay a foundation for China's commercial insurance market development, and **Ping An Good Doctor (PAGD) backed by the leading private health insurer Ping An Group still has the chance to develop similar model, but there's still a long way to go.** Details will be discussed in the following company section. (See "PAGD has the chance to become China's Kaiser Permanente").

Ping An Healthcare and Technology

Non-replicated business model

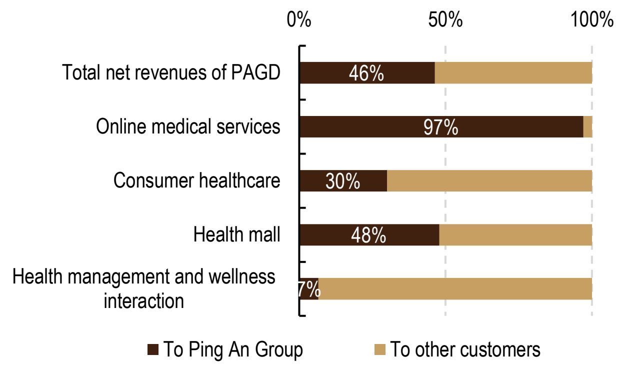
Ping An Healthcare and Technology ("Ping An Good Doctor" or "PAGD") is China's leading one-stop healthcare portal, covering a wide range of health-related businesses, including online medical, consumer healthcare, health mall, as well as health management and wellness interaction. China's leading insurance service provider, Ping An Group is the controlling shareholder and strategic partner of the PAGD, holding 41.3% shares of the company as of June 2019. To be noticed, PAGD's business development relies heavily on Ping An Group, with nearly half of total revenue attributable to customers from Ping An, particularly for its online medical and health mall services, and we think its business model is non-replicated for other internet platforms.

Exhibit 42. China life insurance market share in 2018



Source: CIRC, Blue Lotus (as of Jan. 9, 2020)

Exhibit 43. Large revenue contribution from Ping An Group



Source: Company release, Blue Lotus (as of Jan. 9, 2020)
Note: Revenue contribution data dated as FY17

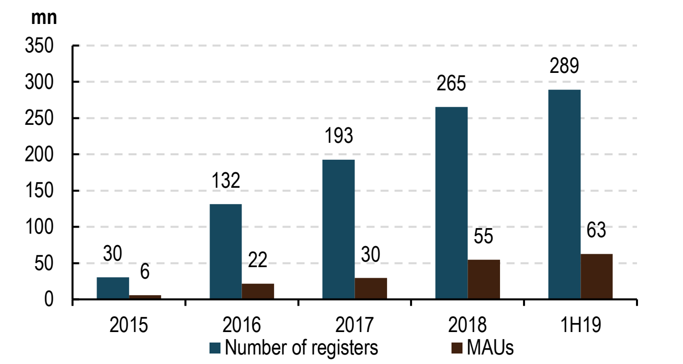
PAGD enjoys great synergy and strong support from Ping An Group primarily through:

- **Strong brand reputation:** Ping An was ranked the world's most valuable insurance brand by Brand Finance in 2019, with a brand value of US$ 50.47bn, and the brand name of Ping An Group can evoke PAGD's users trust immediately.
- **Rich client resources:** Ping An Group had approximately 184mn retail customers and approximately 531mn internet users as of end 2018, and PAGD can leverage Ping An Group's customer network and cross-sell to its massive client base.
- **Wide distribution network:** Ping An Group had approximately 1.42mn life insurance sales agents, and the strong sales and marketing support of Ping An Group can facilitate the PAGD's distribution of healthcare products and capture market share.
- **Service-level agreements:** PAGD has entered into service-level agreement with Ping An Life Insurance to offer medical and wellness related services and products via the plug-in of Ping An Jin Guan Jia (平安金管家). The Group also offers value-added service packages to those policyholders of An Kang and An Xiang products of Ping An Health Insurance.

B2B2C-dominated consultations provide low cost traffic

PAGD operates China's largest internet healthcare platform in terms of user scale and stickiness, offering users with the most comprehensive services as compared with its major peers (see Exhibit 45). According to Trustdata, more than 73% of users regard PAGD as their first choice, and the traffic across the entire ecosystem of PAGD has up 31% YoY to more than 65mn as of C3Q19.

Exhibit 44. PAGD's registers and MAUs



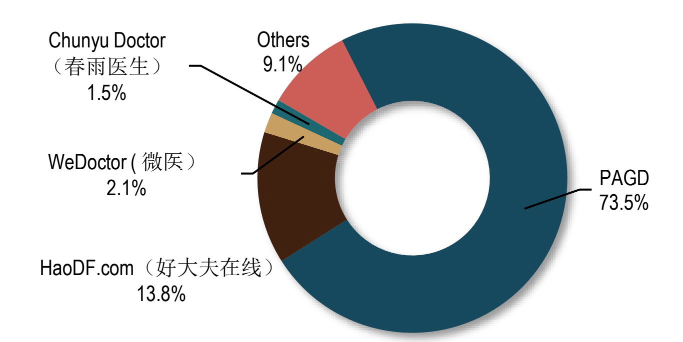
Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

Exhibit 45. Main internet healthcare Apps' service offerings

	Online appointment & consultation	Pharmaceutical eCommerce	Consumer Healthcare
PAGD (平安好医生)	√	√	√
Chunyu Doctor (春雨医生)	√		
HaoDF.com (好大夫在线)	√		
WeDoctor (微医)	√	√	

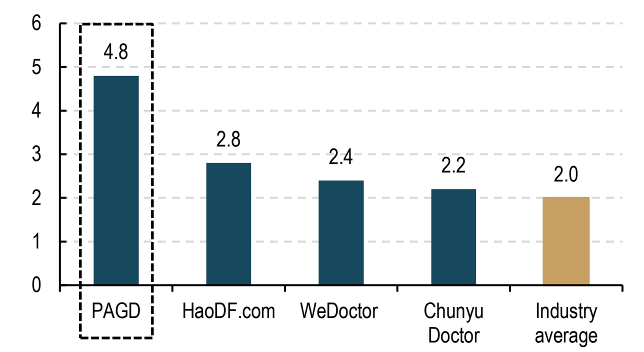
Source: Blue Lotus (as of Jan. 9, 2020)

Exhibit 46. Time spent market share in 3Q19



Source: Trustdata, Blue Lotus (as of Jan. 9, 2020)

Exhibit 47. Number of daily App usages in C3Q19



Source: Trustdata, Blue Lotus (as of Jan. 9, 2020)

Pioneering by "in-house medical team + AI Assistant" service model

- **PAGD differentiates the platform with self-developed medical team.**

  Unlike other internet healthcare platforms, PAGD has built its in-house medical team, with 1,193 staff members as of 1H19, meanwhile contracted with 5,324 renowned external doctors to provide users with 24/7 online consultation services. Premium medical physicians in large hospital generally do not have such ample time to work at different institutions and might not give a prompt reply during online consultation. Therefore, PAGD chose adopting a full-time in-house team instead of heavily relying on external doctors, in order to deliver higher quality services to customers end. Daily average consultations on the platform reached 656 thousand as of 1H19, of which more than 90% were offered by its in-house medical team.

- **AI-empowered consultation services with superior quality and minimal waiting time.**

  PAGD's in-house medical team is supported by its innovative technology solutions, "AI Assistant", involving in online consultation services to conduct preliminary, personalized surveys to gather patients' symptom descriptions, medical history, and other health data. After analysing user input, AI Assistant will perform smart routing and direct patients to the most relevant department or doctor, and also offers relevant information and recommendations to its in-house medical team, which results in higher efficiency (roughly more than 5 times than outpatients' daily consultations per doctor) and lower medical consultation cost compared to the traditional offline medical consultation process. Company disclosed AI-based consultation system has accumulated 530mn records, while achieving a 98% satisfaction rate as of 1H19, and we believe PAGD's AI Assistant will minimize human errors and thereby enhance diagnostics accuracy and service quality through the assimilation of a massive clinical database.

- **Strategic layout in internet hospitals will pave the groundwork.**

  Internet companies cannot issue electronic prescriptions to users through online consultation services without anchoring their services to brick-and-mortar hospitals. Therefore, internet healthcare platforms will choose self-developing or cooperate with government or traditional hospitals to open internet hospitals in order to speed-up the monetization process. PAGD now owns three in-house internet hospitals with Practicing License for Medical Institutions, including Pingan (Qingdao) Internet hospital, Pingan (Hefei) Internet hospital, and Pingan (Yinchuan) internet hospital. Moreover, PAGD has cooperated with regional governments, to help local government hospitals develop cloud-based internet hospital platforms comprising online diagnosis and treatment, prescription sharing and insurance payment, and entering strategic partnerships with nearly 50 offline hospitals as of 1H19. We believe such internet hospital building will lay a solid foundation for further development of online medical services.

Heavy reliance on Ping An Group

PAGD's online medical services is pretty much relying on Ping An Group, with more than 90% online medical services revenues derived from customers of Ping An. To be specific, users purchase health or life insurance from Ping An Group, and PAGD acts as a healthcare service provider for policyholders. Then, PAGD charges Ping An Life on an annual basis at a fixed fee regardless of the usage of the services or headcount of consumers, while charging Ping An Health insurance based on a fixed fee per headcount per annum. Leveraging on the extensive customer base and distribution network of Ping An Group, we view **PAGD's online medical services with differentiated "To B" model will steadily bring traffic to the platform at low cost, which will pave the groundwork for its diverse monetization possibilities.**

Leveraging multiple channels to convert users to payers

Despite PAGD having such a large-scale consultation volume, only 15% are paid consultations. We calculated the number of consultations per active user was roughly 3-5 times per year, and the average online medical services revenue was roughly at RMB 12.4 per paid consultation in 2018. Given the infrequent consultations together with a low unit price, it is hard for the company to be profitable by solely relying on pay-by-usage consultations services. Therefore, PAGD has actively been looking for various channels to monetize its massive traffic, through membership products, pharmaceutical eCommerce, consumer healthcare, and ad business.

Online medical services revenue set to soar

PAGD's online medical services revenue can be separated into three main channels: 1) service-level-agreements (SLA) with Ping An Life Insurance through the plug-in of Ping An Jin Guan Jia (平安金管家), 2) e-prescription related sales, and 3) membership-related products. Among which, memberships as their main way of monetization contributed over 55% of total online medical services revenue in 2018, while SLA and e-prescription related sales accounted for ~30% and ~15% accordingly, per our estimates. **Looking ahead, online medical services revenue is projected to experience explosive growth, mainly attributable to the rapid growth of membership products,** primarily including "Health 360" (就医360) and "Private Doctor" (私家医生), launched by end 2017 and August 2019 respectively.

"**Health 360"** is sold with Ping An Life Insurance at an annual membership fee of RMB 199, offered policyholders on a voluntary basis. This health plan product has achieved initial success, served over 1mn users and contributed over RMB 200mn (more than 55%) to online medical services revenue during 2018. We believe Ping An Group's rich client base indicate continued growth opportunity for this health plan bundling with insurance contract, and its revenue is projected to reach ~RMB 300mn in 2019, assuming 1.5mn users and RMB 199 ARPPU.

"**Private Doctor**" is company's current strategic focus, featured by appointing dedicated medical specialists to cater for the needs of adults, children, and elderly population, with membership packages selling correspondingly at RMB 499, RMB 999, and RMB 1,999, and the standard package includes services from unlimited 24x7 online consultations, 2nd round consultation, medication, hospital appointments, customised healthcare management plans, etc. We think this knockout product will be the main driver of the expected surging online medical services revenue in the near term due to:

- **Promoting the product from B-side is a wise decision…** PAGD adopts the strategy to sell the "Private Doctor" from corporate side via leveraging Ping An Group's close relationship and wide network. On the first day of launch, PAGD has entered into partnership with 29 leading industry giants including China Mobile, BAIC Group, China CITIC Bank, Wyeth Nutrition, China Everbright Bank, Minsheng Life, Pearl River Life, PKU Founder Life, etc, involving industries from banking, insurance, automobile, communications, and maternity services, and the total B-side contractual amount has exceeded RMB 300mn. Management shared that most customers of "Private Doctor" come from the corporate side at the current stage, and individual customers would contribute a small portion in the short term. Therefore, we estimate there will be ~RMB 150mn from B-side contractual amount contributing to online medical service revenue into FY19 (assuming half of total RMB 300mn recognized in FY19).
- **…or might bundle with commercial insurance or cross-selling to PA's rich client base in the future**. The membership product "Private Doctor" has not allowed social insurance payment at present, but seeing from the initial success of its previously-launched product "Health 360", PAGD can bundle "Private Doctor" service with commercial insurance as well, or leveraging Ping An Group's massive sales agents to cross-selling.

Most importantly, we believe Ping An Group has strong incentive to promote health-related membership products. As an insurance giant, more than 50% of Ping An Group's total revenue was from life and health insurance business (~RMB 571bn written premium in 2018), while the related claim expenses were ~RMB 85bn. We think health-related membership products have great synergy with the life and health insurance business, and Ping An Group will have strong motivation to cross-sell to existing policyholders. For instance, the policyholders of Ping An Life Insurance with "Private Doctor" can enjoy an unlimited number of consultations with dedicated medical physicians and customized healthcare management plan, and thus will be less likely to suffer from illness, so that Ping An Group might see a reduced number of claims coming with the bottom-line improvement.

What can change our view?

Looking at this business alone, investors should pay attention to its in-house physician's supply. "Private Doctor" targets to serve 10mn families in the next 3-5 years. We conducted a scenario analysis to roughly estimate the total number of in-house medical staff needed for "Private Doctor," and we conclude that PAGD on average needs ~2,192 full-time medical staff to serve such a great demand.

Key assumptions:

- Number of consultations per family per year: ~12-48 consultations per family per year (roughly equals to 1-4 times per family per month).
- Maximum number of consultations per doctor per day: 350 consultations per doctor per day (roughly equals to three people per five minutes).

Exhibit 48. Scenario analysis of total number doctors needed for "Private Doctors"

	Base	Bear	Bull
Number of serving families (mn) --5-yr Target	10	10	10
Average number of consultations per family per year	24	12	48
Total number of consultations on daily basis (mn)	0.66	0.33	1.32
Maximum number of consultations per doctor per day	350	350	350
Number of doctors needed in total	**1,879**	**939**	**3,757**

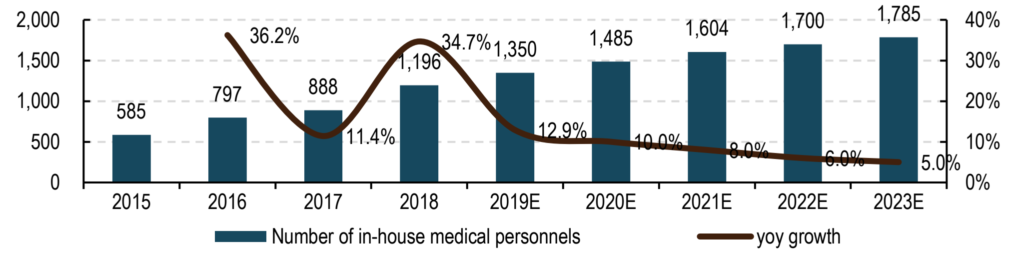
Source: Company release, Blue Lotus (as of Jan. 9, 2020)

In our view, PAGD still bears risks on the supply side, given the slowing growth of in-house doctors, together with the difficulty to acquire or retain "premium" doctors for internet healthcare platforms.

- **Number of self-employed medical staff is moderating**

At 1H19, there were 1,193 members of the in-house medical team, roughly flattish with 1,196 at the end 2018, of which more than 75% are medical assistants rather than "premium" doctors, and we estimate the number of in-house medical members to reach 1,785 by the end of 2023.

Exhibit 49. Number of in-house medical staff of PAGD



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

- **Facing difficulty to further acquire premium doctors from Class III A hospital.**

➢ **Junior-level medical physicians, which are lack of experience and money prefer working in Class III A hospitals for experience accumulation and better career path.**

Most doctors are not purely money-oriented, and being a good doctor has to experience complicated or challenging cases and require systemized guidance under senior physicians, and it is hard for junior physicians to obtain such support and experience by working on internet healthcare platforms.

According to World Bank Group, there are three levels of professional titles for China's physicians: 1) junior level (Resident Doctors), 2) middle level (Attending Doctors) ; and senior level (Chief Physician, Associate Chief Physicians), and the title will be a critical component of physicians' career development and generally relating to their salary and other benefits. For junior and middle-level health professionals, those matched with national evaluation criteria need to pass a technical qualification exam, while the evaluation for senior-level titles consists of an exam and individual assessment at the provincial level, which will be based on dissertation writing and rich experience gathered from complex cases. Obviously, working in internet hospitals occupied by most "light" disease makes it hard for them to accumulate such experience to build industry expertise and reputation.

➢ **Senior level physicians with good reputation and remuneration might not choose working at internet hospitals as well.**

Physicians are well respected in China, especially those with senior advanced title. They've already gained good social status, high wages, and have multiple channels to earn money outside of hospitals, such as attending lectures, TV programs, and thus will be less likely to be attracted by rich remuneration of internet platforms. Additionally, working in internet hospitals seems a "one-way" choice for them, and it is hard for them to turn back to Class III A hospital if they are unsatisfied with the existing situation. As a result, we think those retired doctors with less reputation are more willing to work at internet platforms for higher salary and benefits. However, the unique selling point for "Private Doctor" is allowing patients to add WeChat contact for a well-known doctor from Class III A hospital, and the difficulty in acquiring more renowned doctors probably makes the product look less attractive to users.

- **Shortage in supply side will lead to a poor experience on both doctor and patient sides.**

On the users' front, patients might not receive detailed or timely response given the insufficient number of physicians. Moreover, people who purchase the membership package will consult as much as they can and sometimes even ask too many minor questions, and such a large number of "unnecessary" consultations will annoy doctors as well, and they might prefer those pay-by-usage consultations with higher ROI.

In summary, we think PAGD's online medical services revenue will see explosive growth in the next three years, mainly because the strong support from Ping An Group will bring large membership products sales via contractual sales to corporate side and cross-selling to commercial insurance policyholders. However, assuming a large demand is visible, for the long term, we are concerned about whether PAGD could further acquire sufficient medical staff to cater for the demand. We still need to keep an eye on its in-house physicians' growth and observe more data traffic for this early-stage product going forward.

Health Mall needs time to see economies of scale

PAGD's health mall primarily sells three categories of products: healthcare products (Health Supplement, TCM and Chemical Drugs, Medical Devices), wellness products (Personal Care, Maternal & Infant Care, Sports & Fitness), and others (Home Necessity, Home Appliances). Per data in 2017, healthcare products accounted of the largest portion, with 53% of total, while wellness and others contribute 23%, and 24%, accordingly. The GMV of health mall has experienced explosive growth from RMB 2.5mn in 2015 to RMB 2,973mn in 2018. Revenue streams were mainly from sales of healthcare and wellness products under direct sales model (1P) and collecting commissions from 3rd party vendors under marketplace model (3P).

- **Direct Sales Model (1P)** can be distributed into those sold to individual clients and procurements from corporate clients. We estimate direct sales to individual clients' contributing for nearly 60% total GMV, with ~10% gross margin, while GMV from corporate clients' procurements (primarily from Ping An Group) roughly took 30% of total with lower gross margin of 4.7% in 1H19.

- Under **Marketplace Model**, PAGD generally collects commissions from 3rd party vendors at rate of 4 to 10%. 3P model accounts of ~10% of total GMV, along with a higher gross margin of ~35%, per our estimates.

Exhibit 50. PAGD's Health Mall business model

	GMV contribution	Gross Margin
Direct Sales Model	**90%**	**~7%**
--Individual clients	60%	~10%
--Procurements from corporate clients	30%	~5%
Marketplace Model	**10%**	**~35%**

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Health Mall will continue as a large revenue contributor…

There's large upside potential in traffic growth and higher paying ratio, given:

- As people's rising healthcare awareness and disposable income, PAGD as the market leader will see continued solid traffic growth and there will be a higher proportion of users purchasing health-related products through PAGD's Health Mall.

- Post online consultation incorporated into social insurance system since July, the potentially large increase in number of online consultations would bring incremental value to PAGD's Health Mall business via cross-selling the products going forward.

- PAGD has collaborated with approximately 1,300 merchants, offering nearly 700,000 SKUs as of 1H19, an increase of 350 merchants and about 57,000 SKUs respectively from 1H18. Looking ahead, we expect the continued expanding in SKUs will enlarge the scope of its product and service offerings, and thus help boost conversion as well.

To be noticed PAGD's Health Mall business line will not benefit from the prescription outflow and the decontrol of online prescription drug sales because prescription drug sales were incorporated with online medical services line rather than Health Mall business, and it is not the strategic focus for PAGD as well.

… but with limited room for margin improvement in the short term.

As of 1H19, Health Mall business contributed 64% of PAGD's total revenue and only 22% of total gross profit. The group experienced a deteriorating gross margin from 18.1% and 10.8% from 2016 to 2018. The gross margin in 1H19 was only 7.4%, which was lower than pharmaceutical eCommerce peers' 15% (See Exhibit 26), mainly because of the higher level of procurement from Ping An Group and its lower margin due to large volume discounts. We think PAGD's high reliance on Ping An Group puts it in a weak position with lower bargaining power on price, and the rising procurement from Ping An Group's might offer a fast-growing revenue contribution but make it hard to be profitable from this business in the near term, and the economies of scale needs time.

Consumer healthcare services will experience organic growth

Consumer healthcare generates revenue by sales of customized consumer healthcare service packages to individuals (~70%) as well as corporate clients (~30%), offering services such as health check-up, genetic testing, beauty care, oral hygiene, overseas health check-up etc. PAGD has been continuously expanding its network with healthcare institutions and has wide offline service networks, and the Group has collaborated with 400 traditional Chinese medicine clinics, over 1,600 check-up centres, 1,700 dental clinics, and 150 medical beauty clinics as of 1H19.

Consumer healthcare will grow healthily over the next few years…

Health check-up was the main stream with more than 80% revenue contribution, and company near-term focus will be still on it. Unlike AliHealth, PAGD will not lay too much effort on medical aesthetic services given its high-risk and company think it will be sensible to government regulatory. Therefore, we expect its consumer healthcare business will mostly experience a steady growth as continued offline network expansions, but rather than an explosive growth given the growth of health check-up market has been stabilized.

…, margin seems hard to be improved as well.

- Sales of service packages of PAGD remains **largely reliant on sales agents of Ping An Group**, with approximately 70% of sales contributing to Ping An's sales agents, and PAGD in turn will pay compensation at a rate of 5% to 25% depending on the product type.
- **Witness shrinking margin due to less breakage income and higher proportion from corporate side.** The gross profit margin of the consumer healthcare business was 34.9% in 1H19, largely decreased from 45.9% in 1H18, primarily because of rising proportion of revenue from corporate check-up business with higher volume but lower margin, together with a lower breakage income from higher usage rates.

Fast-growing ad business still has potential

Building on the massive user scale on the platform, PAGD's health management and wellness interaction services generate revenue from advertising business, primarily offering three types of ads including display, search, and sponsored stories for health-related products and companies. Advertisers are typically reputable multinational and domestic corporations, including Bayer (拜耳), Johnson & Johnson (强生), China Resources Sanjiu (华润三九), Xian-Janssen (西安杨森), and By-Health (汤臣倍健), and choose to pay for their advertisements primarily based on cost per thousand impressions, cost per click, or cost per day.

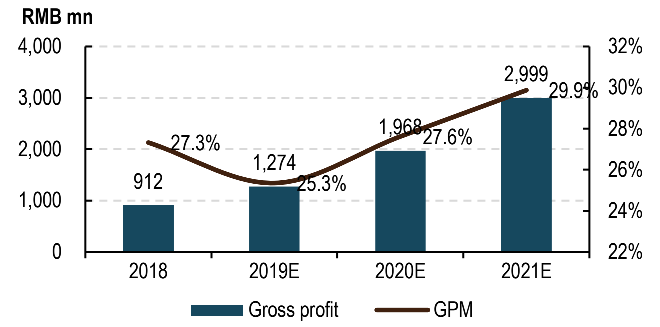
The ongoing increase in traffic activeness and stickiness will bring opportunities to monetize through ad business… Health management and wellness interaction business was the fastest growth segment, grew 111.5% YoY to reach RMB 157.2mn in 2018, together with a high gross profit margin at ~82%. The platform was expected to continue benefiting from industry tailwind and will experience rapid growth in both user scales and engagement, which presents great monetization possibilities through ad business.

Profitability still takes time

Overall, we estimate PAGD's total revenue to grow at a 44% 3-yr CAGR to reach RMB 10,041mn in FY21. Two main revenue streams, online medical and health mall businesses, will maintain robust growth momentum, with 83% and 47% 3-yr CAGR, respectively. Consumer healthcare services will grow organically at a 11% 3-yr CAGR. Early-stage health management and wellness interaction service is projected to keep a 40% 3-yr CAGR going forward.

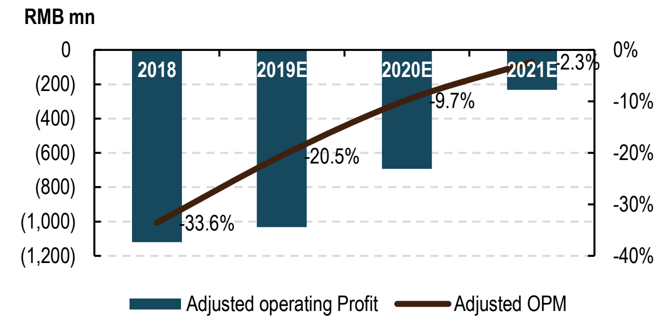
However, we think its margin seeing limited upside potential in the near term, given the attractive benefits offered to internal medical teams, a large volume discount offered to Ping An Group's direct procurement, along with spreading marketing promotion fees on its newly launched "Private Doctor" product. GPM will be under pressure into FY19, but will steadily improve since FY20 and to reach 29.9% in FY21 as expected rising revenue contribution from online medical services with higher margin. Operating leverage will help PAGD narrow the loss, with an estimated -2.3% Non-IFRS OPM into FY21 (vs. -20.5% in 2019), and the breakeven is expected into FY22.

Exhibit 51. PAGD's GPM



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Exhibit 52. PAGD's Non-IFRS OPM



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Ample cash will offer a cushion

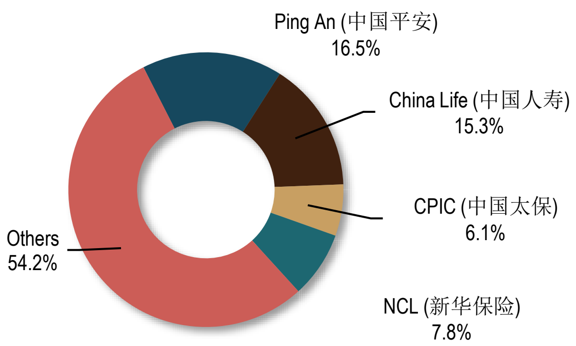
Sufficient cash balance allows more attempts. PAGD's financial position is healthy with adequate fund and there's no outstanding borrowings as of 1H19. The total funds available to the company amounted to RMB 9,568mn as of 1H19. The nature of PAGD's core business typically does not require significant capital expenditures. Although the company's unique business model has not yet proved to succeed, we think its strong cash balance is sufficient to support PAGD's further expansion and will allow more attempts to explore application scenarios and profitable business models in internet healthcare segment.

PAGD has the chance to become China's Kaiser Permanente

As what we mentioned in the industry section, there's amounts of obstacles that hinder the pace of developing Managed Care in China, but opportunities still exist for private insurance companies and we are trying to figure out the company with the potential to be China's Kaiser Permanente over the long run. In our view, the combination of commercial insurance payment and the sufficient medical resources supply are two critical factors to develop Kaiser's business model, and we will analyse it from two aspects:

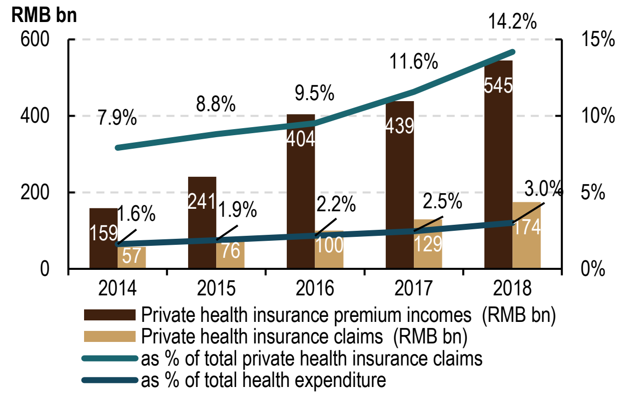
- **Commercial insurance payment side:** According to China Insurance Regulatory Commission (CIRC), we found top four private health insurance players are Ping An Group, China Life, China Pacific Insurance (CPIC), and New China Life (NCL), with 16.5%, 15.3%, 6.1% and 7.8% market share, respectively. Ping An Group, the largest health insurance provider, is the only one with strategic layout in healthcare segment, primarily via its subsidiary Ping An Good Doctor (PAGD). China's private health insurance payment now has only 3% penetration, but we see an upward trend on both private health insurance premium incomes and claims. Going forward, we expect the trend to continue and the proportion of those out-of-pocket (~29%) is likely to gradually shift to be paid by private health insurers, implying great opportunities for Ping An Group's health insurance business development.

Exhibit 53. China health insurance market share in 2018



Source: CIRC, Blue Lotus (as of Jan. 9, 2020)

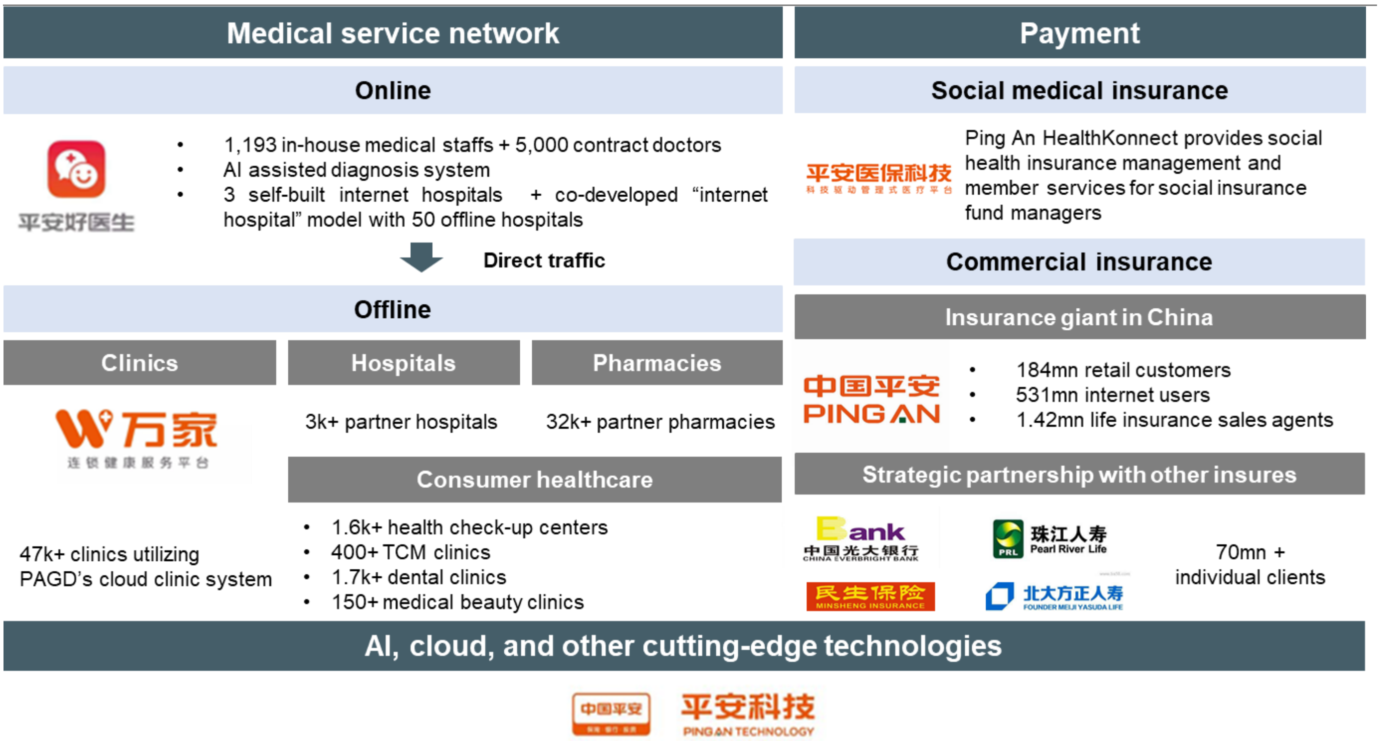
Exhibit 54. Private health insurance incomes & claims



Source: ISAPS, iGengmei, Blue Lotus (as of Jan. 9, 2020)

- **Medical resources supply side:** Among various internet healthcare platforms, PAGD features by its AI-assisted self-employed medical team, owned three self-built internet hospitals with Practicing License for Medical Institutions, and has entered strategic partnerships with nearly 50 offline hospitals to jointly develop the new "internet hospital" model. More importantly, PAGD acquired Wanjia Healthcare in 2H18 with focus on connecting and empowering primary medical institutions, to accelerate its offline strategic layout, optimize the self-contained system of online and offline family doctor services. We view PAGD will further leverage on Ping An's extensive distribution network, close relationship with governments, and adequate financial support, to build a broader medical services network and ecosystem.

Exhibit 55. Ping An Group/PAGD's integrated healthcare ecosystem



Source: Ping An Group, PAGD, Blue Lotus (as of Jan. 9, 2020)

From the perspective of payment, PAGD's controlling shareholder Ping An Group pioneers China's private health insurance market and will benefit from the continuously maturing commercial insurance payment system. PAGD has been seeking strategic partnerships with other insurance companies as well (See Exhibit 55), to further solidify its commercial insurance ecosystem and lay a groundwork for the development of HMO over the long term. On the healthcare service providers side, PAGD's in-house medical teams, strong layouts in internet hospitals, and an integrated online and offline network, will offer supports for PAGD's rapid growing healthcare services in the future. Therefore, we think **PAGD is the Group with the most potential to develop Kaiser's model but there's still a long way to go,** given that tackling industry challenges (early-stage commercial health insurance system, less-developed private medical institutions and medical groups, and shortage of general physicians) still needs time.

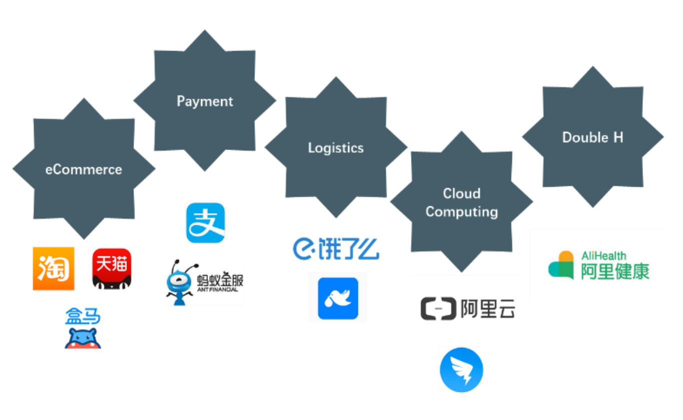
Alibaba Health

Healthcare Flagship of Alibaba

The Group was formerly known as CITIC 21CN, the sole provider of electronic identification codes for essential medicines. In January 2014, Alibaba Group and Yunfeng Fund acquired a 54.3% controlling stake in the company for HK$ 1.33bn (US$ 171mn), and since then the Group has been renamed as Alibaba Health Information Technology Ltd.

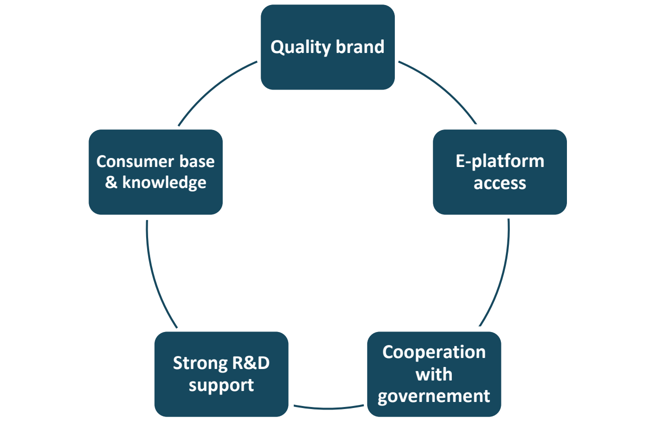
AliHealth is the healthcare flagship platform of Alibaba's "Double H" strategy (Happiness & Health) and is one of companies controlled by Alibaba, with 56.02% stake as of FY19. Leveraging Alibaba's strengths in eCommerce, finance, logistic, big data and cloud computing, the Group aims to offer fair, affordable, and accessible solutions for healthcare industry. During FY14-16, AliHealth's main revenue stream was from the operation of Drug PIATS (product identification, authentication, and tracking system for the drug industry), which was abandoned by the government in 2016 as pharma companies and other stakeholders argued it was anti-competitive. Going forward, AliHealth expanded its service offerings from signalized tracking services to businesses such as pharmaceutical eCommerce, consumer healthcare, and internet healthcare.

Exhibit 56. Alibaba's strategic layouts



Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

Exhibit 57. Strong shareholder support from Alibaba Group



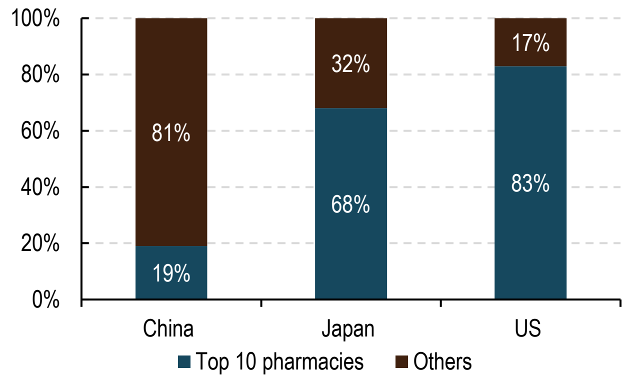
Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

Well positioned to ride the market waves

Favourable regulations create a bullish backdrop for retail pharmacy growth and will lead to the further consolidation. We expect the launch and implementation of relevant policies such as that "4+7" bulk purchase procurement, accelerating prescription outflows, and easing online sales of prescription drugs, will significantly expand the drug retail market outside of hospitals, and in turn, present great opportunities for pharmaceutical eCommerce development in China. Moreover, pharmaceutical retail and market is highly fragmented in China. Per company release, the market share of top 10 pharmacies retail enterprises was 19%, compared with 68% and 83% in Japan and US, respectively, indicating a large room for further consolidation with improved operational efficiency.

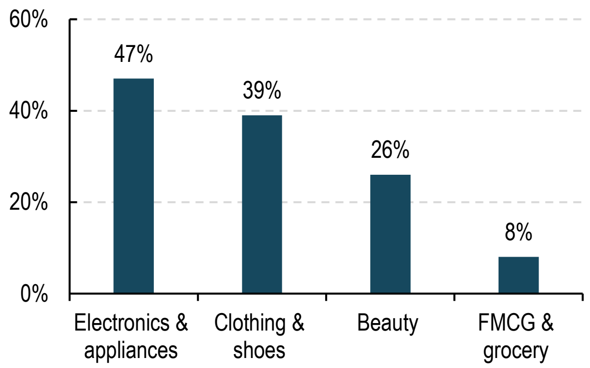
Large undersaturated pharmaceutical eCommerce market leaves ample room for growth. According to data from iiMedia and Frost & Sullivan, pharmaceutical eCommerce penetration was 7.1% in 2018, of which GMV of B2C channel contributes only 3.1% of total pharmaceutical market, still largely lagging behind that in other categories and implying substantial growth potential. AliHealth commenced pharmaceutical eCommerce business since 2016, and then grew rapidly to become China's largest pharmaceutical eCommerce platform in a short period, with ~50% market share, and we expect AliHealth with first-mover advantage will be the main beneficiary of the booming pharmaceutical eCommerce opportunities in China.

Exhibit 58. Distribution of pharmacy concentration by country



Source: Southern Institute of Pharmaceutical Economics of CFDA, Frost & Sullivan, Company presentation, Blue Lotus (as of Jan. 9, 2020)

Exhibit 59. China's eCommerce penetration by category

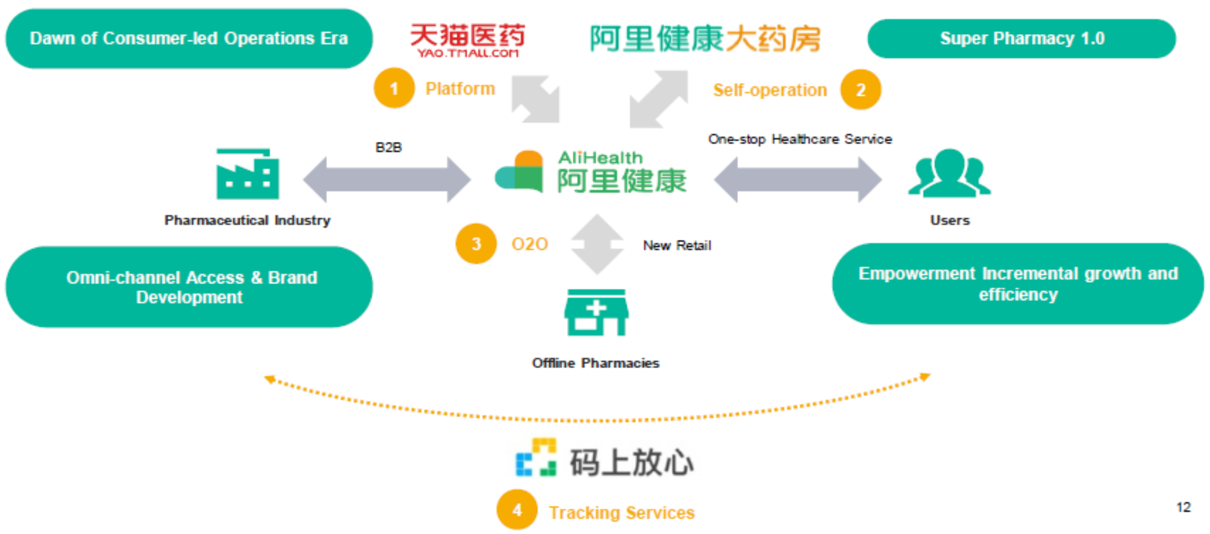


Source: Euromonitor, PWC, Blue Lotus (as of Jan. 9, 2020)

eCommerce-related services drive rapid revenue growth

Unlike PAGD, AliHealth has more signalized revenue structure, with more than 95% of total revenue eCommerce-related as of FY19, which can be mainly distributed through four categories: 1) self-operated business mainly through AliHealth Pharmacy (阿里健康大药房) and AliHealth Overseas Flagship Store (阿里健康海外旗舰店)； 2) B2B business offering services on Tmall Pharmacy Platform (天猫医药馆); 3) O2O business; and 4) Tracking services.

Exhibit 60. AliHealth's pharmaceutical eCommerce related business framework



Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

- **Pharmaceutical self-operated business (B2C-focused)**: AliHealth has started its self-operated pharmaceutical business since August 2016, through buying a full ownership of Guangzhou Wu Qian Nian Pharmaceutical Chain Co., Ltd. (广州五千年医药连锁有限公司) (subsequently renamed as "AliHealth Pharmacy") with the Internet Drug Transaction Service Qualification Certificate (C certificate). Following the acquisition, the Group is entitled to sell drugs online, complying with relevant laws and regulations.

  Pharmaceutical self-operated business accounted for the largest proportion of total revenue (more than 80%), generated RMB 4,227mn revenue with 91% YoY as of FY19. **We expect 1P business will maintain its robust growth momentum**, primarily due to:

  - **Increasing number of clients converted from Alibaba Group.** AliHealth would maximize the utilization of traffic resources from various portals of Alibaba Group. Its self-operated online stores accumulated more than 37mn annual active consumers as of September 2019, and we think the Group will see enlarged client base with a higher conversion from Alibaba Group, particularly given a massive traffic on Taobao. Furthermore, the Group's self-operated online stores (AliHealth Pharmacy and AliHealth Overseas Flagship Store) now cover more than 60,000 SKUs, and the further enriching product categories will offer users with more choices together with an improving purchase experience, which will bring more users to the platform as well, in our view.

  - **Powerful tailwinds from prescription drug market.** Industry-wise, we see the accelerated prescription outflows left with ~RMB 300bn addressable market for internet healthcare platforms (See Exhibit 24), meanwhile the gradual easing policy of online prescription drug sales is projected to bring an incremental value of ~RMB 200bn (See Exhibit 25). After the removal of the suspension of online prescription drug sales in overall guidance, local authority needs time to formulate detailed regulations, and we think the policy will be completely liberalized in 1H20. AliHealth's self-operated stores did not involve in any prescription drug sales in the past, and we predict the financial benefits will emerge starting from FY21, given the Group has been well-prepared to embrace the new policy.

  In order to deliver goods nationwide at greater efficiency, the Group has set up five central warehouses, including Foshan and Chongqing, Guangzhou, Shijiazhuang, and Kunshan, and its coverage of remote areas has been largely enlarged via the partnership with Cainiao. Fulfilment expenses accounted for 13.5% of 1P revenue as of FY19, and was expected to gradually decline to ~10.3% by FY22 with higher operating efficiency, owing to warehouse expansions and utilization rate enhancement through leveraging Alibaba's well-established fulfilment infrastructure.

- **Pharmaceutical eCommerce platform business (B2B2C Model):** In July 2016, AliHealth entered into a service agreement with Tmall Entities, and the Group commenced to offer merchant business development, customer service, marketing event planning and technical support for certain pharmaceutical-related categories on the Tmall platform. AliHealth acquired the health food category eCommerce platform business from Alibaba Group in June 2017, and the company further acquired the eCommerce platform business relating to the categories of medical devices and healthcare products, sexual health and family planning products, contact lenses, and medical and healthcare services from Alibaba Group during

2018. AliHealth business now covers all categories of the Tmall Pharmacy platform through the above acquisitions or by way of provision of outsourced and value-added services, and there are two revenue models in this segment:

- **For those categories that have been acquired by AliHealth:** AliHealth charges 3% commission fee of the completed sales and allocated 50% of the commission to Tmall platform. The reason for splitting the commission fee of the acquired categories is that Tmall, as the platform provider, will continue to provide technical services to the merchants, including Tmall software service fees, internet information services, and secondary domain names.
- **For those non-consolidated categories (OTC, prescription drugs, and nutritional healthcare products):** The two parties would share the commission fee on the merchant services outsourced from Tmall Pharmacy Platform. Namely, AliHealth would get 21.5% of the total commissions, where Tmall charges to the contracted merchants (3% commission fee), which will result in less revenue booked on the financial statement.

Exhibit 61. Consolidated & Non-consolidated services

Way of operations	Eight main categories on Tmall Pharmacy	Time of acquisition/ offering outsourced services
Consolidated (Acquired by AliHealth)	Health food	June 2017
	Medical devices	July 2018
	Sexual health and family planning products	
	Contact lenses	
	Medical and healthcare services	
Non-consolidated (outsourced and value-added services)	Prescription drugs	April 2017
	Non prescription drugs (OTC)	April 2017
	Nutritional supplements	April 2018

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Exhibit 62. B2B2C Model segmentation and take rate in FY19

RMB bn	GMV	Revenue	Take rate
B2B2C Model	**55.3**	**0.69**	
Consolidated services	**13.8**	**0.41**	**3.0%**
% of total	*25%*	*60%*	-
Non-consolidated services	**41.5**	**0.27**	**0.6%**
% of total	*75%*	*39%*	-

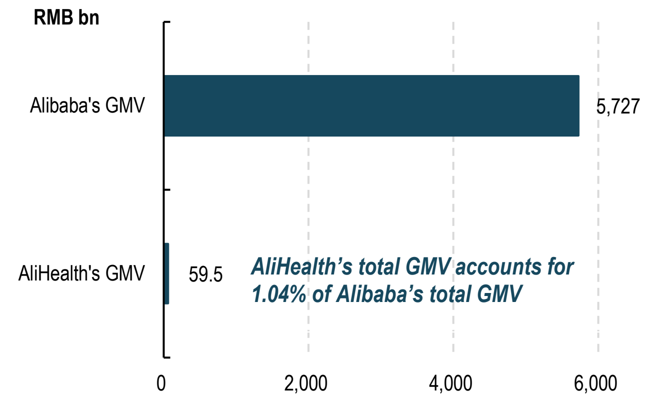
Source: Company release, Blue Lotus (as of Jan. 9, 2020)

GMV generated by Tmall Pharmacy platform operated by the Group grew 99%YoY to exceed more than RMB 55bn (excluding self-operated business) in FY19, while the annual revenue growth of pharmaceutical eCommerce platform business was 297% over the same time period. **We think the pharmaceutical eCommerce platform business will mostly experience a steady growth in the next few years, given:**

- **Gradual acquisition of remaining categories from Tmall platform.** Over the last two years, Alibaba has consistently acquired categories into its own system, and these consolidated categories with higher take rate will typically record a better topline, and we think that's the main reason for the inconsistency between GMV and revenue growth during the year. As Alibaba has acquired majority categories during FY19, and the further acquisition of OTC and prescription drugs will be gradual given the government's policy hurdle, hence we expect the pharmaceutical eCommerce platform business to grow steadily in the next few years.
- **Rising health-related spending on Tmall platform.** Alibaba recorded an aggregate GMV of RMB 5,727bn during FY19, while those health-related services under AliHealth's operation reached an GMV of RMB 59.5bn in the same time period, representing only 1.04% of Alibaba's total GMV. NHC disclosed Chinese people spent around 6% of their total disposable

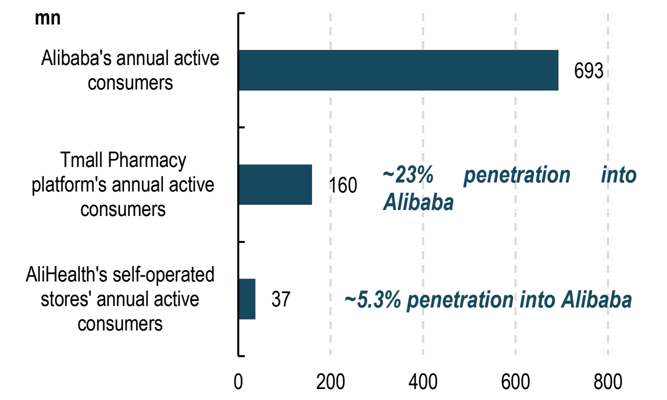
income on healthcare and medical services in 2018, and we expect the penetration rate of Alibaba's health-related spending to gradually increase as people become more accustomed to purchasing health products online. Annual active consumers of Tmall Pharmacy platform as of September 2019 were more than 160mn, contributing 23% of Alibaba's total active consumers. AliHealth, as the operator, will continue benefiting and leveraging on the opportunity from the rising customer base of Tmall Pharmacy platform, in our view.

Exhibit 63. AliHealth-operated Tmall Pharmacy GMV penetration into Alibaba in FY19



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Exhibit 64. AliHealth's active customers penetration into Alibaba as of Sept. 2019



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

- **O2O, a step toward Omni-channel.**

Leveraging on a vast network of offline pharmaceutical chains. Offline pharmacy stores as an important part of medical industry chain are the direct way to reach consumers. As early as 2016, AliHealth set up the "China Medical O2O Pioneer Alliance" (中国医药O2O先锋联盟) to integrate online and offline recourse and empower offline pharmacies to better meet consumer demands, and this alliance now covers more than 260 chain pharmacies with 40,000 offline pharmacy outlets in over 400 cities in China. Moreover, AliHealth has strategically invested in regionally leading pharmaceutical chains, and we expect the Group to continue strengthening the partnership with offline chains to forge an integrated online and offline omni-channel sales network.

Exhibit 65. Strategic investment in four regionally leading pharmaceutical chains

Offline pharmaceutical chains	Investment Amount (RMB mn)	% stake	Time	# of offline stores they owned
Anhui Huaren Health (安徽华人健康)	N.A.	N.A.	June 2018	600+
Shandong ShuYu Civilian (山东漱玉平民)	454	9.34%	June 2018	1200+
Guizhou Ensure (贵州一树)	826	25.00%	August 2018	1000+
Gansu Deshengtang(甘肃德生堂)	189	10%	December 2018	600+

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

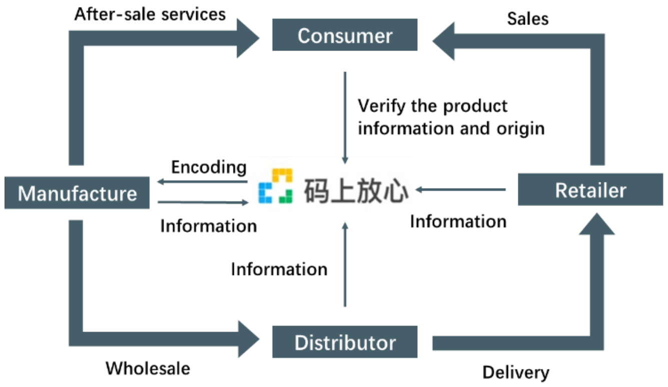
24/7 30-minute drug delivery service in 10 cities and "Emergency drug delivery service" in 120 cities nationwide. The Group introduced the 24-hour express delivery trial services in Hangzhou to deliver drugs "within 30 minutes during the day and within 1 hour at night" in August 2018, and has expanded the service to 10 cities as of November 2019 (Hangzhou, Beijing, Guangzhou, Shenzhen and Wuhan, Shanghai, Nanjing, Chengdu, Jinan, and Hefei), through leveraging on Alibaba's own delivery network Cainiao and Alibaba-back ele'me delivery network. Meanwhile, the Group has rolled out "emergency drug delivery service in over 120 cities across the country, and will expand to more cities with continuous investment in O2O business in the future.

Small revenue contribution but treated as an effective marketing channel. Overall, China's drug O2O market remains small at less than RMB 10bn, assuming 200k average daily orders and RMB 50 ASP. Given its low-frequency nature and small market size, we think new retail business will not be an important revenue stream of AliHealth in the near term, but the main scenario of urgent medicine delivery will arouse people's awareness and cultivate users' habits for purchasing drugs through online channel. O2O business can work as an effective marketing channel, and the constantly expanding network with offline chains will better integrate online and offline resources to bring consumers with improved medical experience.

- **Tracking business is more than just a revenue stream.**

The Group previously acted as an exclusive platform operating Drug PIATS business in China. Following a lawsuit and complaints the original system gave AliHealth an unfair competitive advantage, CFDA dropped the Drug PIATS in February 2016, and the tracking platform has since been rebadged as Ma Shang Fang Xin (码上放心) and being available since June 2016. Leveraging on Alibaba Cloud's strong computational and data processing capacity, Ma Shang Fang Xin operates as a third-party traceability platform, offering pharmaceutical manufactures with basic tools and value-added services such as drug tracking and recall, channel management, patient education, vaccine cold chain tracking etc. The platform monetizes the business through charging enterprises with technical support fee and basic service fee, while tracking services are free for users by public.

Exhibit 66. Tracking services value chain



Source: Company website, Blue Lotus (as of Jan. 9, 2020)

Exhibit 67. Tracking service business model

	Service offerings	Source of revenue
Enterprise	Product tracking & logistics information services	1) Technical support services fee (data storage, interface interchanges etc.) 2) Basic services fee (Free for the first three years)
Consumer	Verifying product information & origins	Permanent free for users

Source: Company release, Sohu.com, Blue Lotus (as of Jan. 9, 2020)

Favorable policies lay the groundwork for the construction of traceability system. In April 2019, National Medical Products Administration (NMPA) issued guidance for the construction of a drug information and drug tracking system, as well as the coding standards on drug tracking, with the mission to offer greater security and assurance in the supply and use of pharmaceutical products and further advance the construction of a drug tracking system. The document clarified the standards for the drug traceability process, and guiding relevant parties to carry out the construction of drug information traceability system under the unified framework. Drug manufacturers are required to implement relevant standards and adopt self-build or drug traceability systems offered by third party agencies, which will present great opportunities for the leading player AliHealth.

Exhibit 68. Favorable Policies for tracking service development

Date	Policies	Main Point
Apr. 2019	Drug Information and Traceability System (药品信息化追溯体系建设导则) Drug Traceability Code Coding Requirements (药品追溯码编码要求)	The drug traceability system officially clarified national standards for the first time, providing policy basis and direction for pharmaceutical companies to make decision-making choices for traceability systems and regulatory implementation of local regulatory agencies.
Jun. 2019	Vaccine Administration Law of People's Republic of China (中华人民共和国疫苗管理法)	Requires the implementation of a full electronic tracking system for vaccines nationwide
Aug. 2019	New Drug Administration Law (中华人民共和国药品管理法)	The law repeatedly emphasizes the importance of a drug tracking system and promotes the establishment of a nationwide drug tracking system

Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

Help Build a defensive moat and create strategic benefits in the future. Despite that AliHealth is no longer the sole provider of electronic monitoring bar codes for drugs, it still occupies the majority market share given its strength in data and technology from over 10 years operation in the drug traceability business. As of September 2019, the platform covered over 90% of pharmaceutical manufacturers in China, and the coverage of key categories, such as vaccines, was 100%, and it has expanded to non-pharmaceutical fields as well, such as food and nutritional healthcare products. Tracking business currently only accounted for 1% of total revenue as of FY19, and we think it has limited upside potential, given that company has already achieved a large market penetration and shifted away from its previous strategic focus post the abandon of Drug PIATS since 2016. Looking ahead, it will mostly act in a role to create strategic benefit rather than financial benefits to the company. For example, users can freely check the drug or vaccines information and origin for greater security and assurance, and AliHealth, in turn, will see enhanced branding and reputation. Furthermore, the development of traceability service complies with government's accelerated pharma traceability regulation. Through the tracking service, the Group could assist government departments to construct a unified framework for a drug traceability system for effective supervision and strengthen medical insurance premium control, and thus will form a close relationship with government and gain strong support from it.

Consumer healthcare might evolve as the next growth engine

One of main channel for users to access consumer healthcare services in China. AliHealth's consumer healthcare business segment consist of aesthetic medicine, oral health, vaccination, and physical examination, and its GMV expanded rapidly with more than 140% YoY in FY19, which was among the highest growth rate across all Tmall industry categories during Tmall's "Double 11" and other shopping festivals. Building upon the foundation of AliHealth's operations on mobile

Taobao, the Group is capable of tapping into high-traffic portals from Alibaba, such as Alipay and Koubei to integrate quality consumer healthcare services into other daily scenarios.

Actively building deep cooperation with upstream quality brands. The Group has actively expanded partnerships with organizations in various fields through its online platform and self-operated stores, aimed at offering users with safe, professional, and transparent medical and healthcare services, together with health education, consultation, reservation, and other value-added services.

Exhibit 69. Upstream quality brands in various segments

Source: Company release, media reports, Blue Lotus (as of Jan. 9, 2020)

- **Medical aesthetic services are poised for a significant growth.**

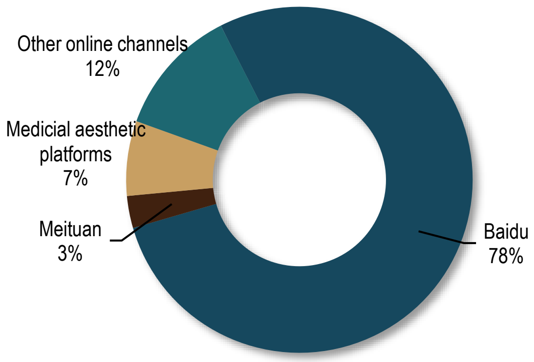
Tmall and AliHealth jointly entered the medical aesthetic market in April 2016, and Alibaba invested "Meili Shenqi" to enter into Tmall medical aesthetic platform. In September 2019, AliHealth launched the Tmall medical aesthetics "Renewal Initiative" (焕新计划), offering comprehensive solutions for merchants to upgrade stores, portals, products, scenarios, and marketing methods. Management shared the company goal is a 300% GMV growth and a 100% growth of covered cities in the future, and planning to hatch 100 medical aesthetic institutions with more than RMB 10mn revenue.

– **Offering merchants with lower user acquisition cost and customers with greater security**

According to Frost & Sullivan, more than 70% of total online user acquisition budget in China's medical aesthetic industry has been allocated on Baidu, but the traffic acquisition cost is typically expensive for small to medium medical beauty institutions, roughly at RMB 4,000-5,000 per user, based on our estimates. Therefore, amounts of offline medical beauty clinics charge customers with extremely higher price than those displayed online. People with poor consumption experience will be reluctant to make further purchase, and hence medical aesthetic institutions have to constantly pour large amounts of money to obtain users but with low ROI, forming a vicious circle in the end.

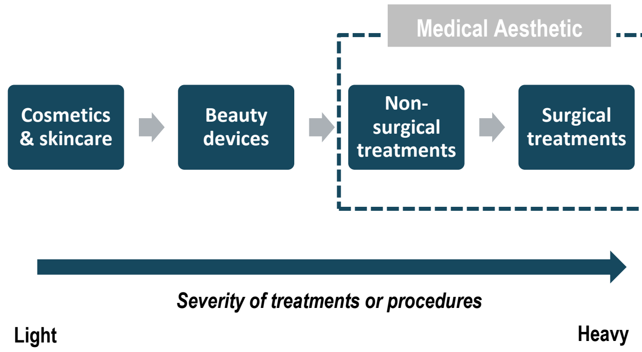
Lower user acquisition cost: Tmall Medical Aesthetic platform operated by AliHealth can offer them an additional marketing channel, and medical beauty institutions will enjoy traffic conversion from Alibaba Group at low cost. Alibaba is capable of cross-selling low-frequency medical aesthetic services via leveraging its mass-market high frequency products. Taobao has accumulated more than 690mn annual active buyers, of which ~300mn are beauty-related (such as cosmetics, personal care etc.). We expect demand on beauty to gradually shift from purely purchasing beauty-related products to experience medical beauty treatments as people's growing disposable income and higher attention attached on the appearance.

Exhibit 70. Online customer acquisition spending mix in 2018



Source: Frost & Sullivan, Blue Lotus (as of Jan. 9, 2020)

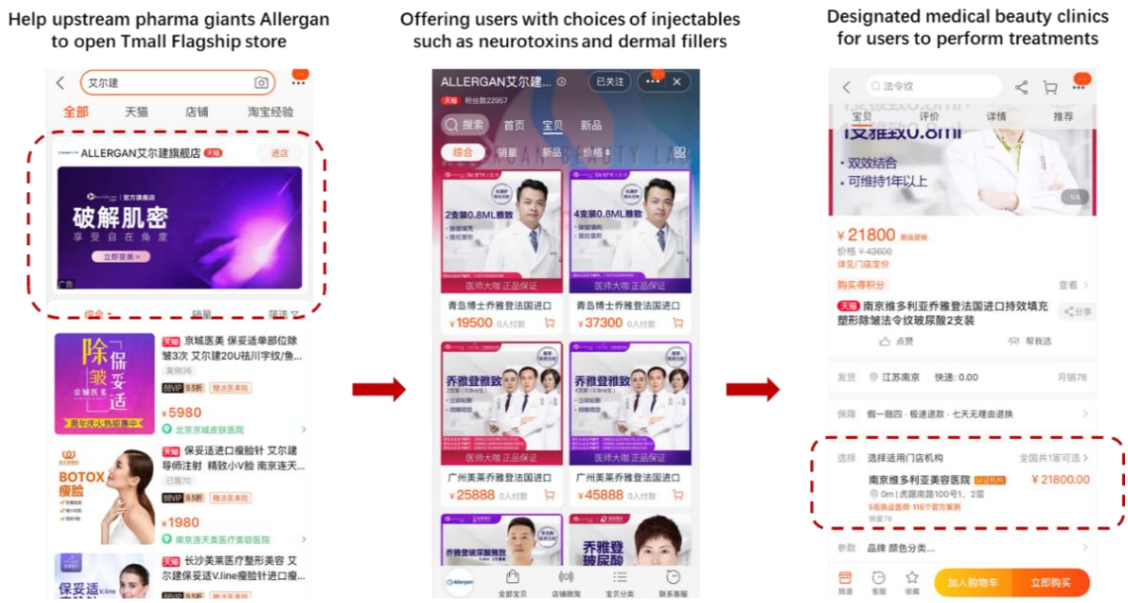
Exhibit 71. Consumption upgrade in medical beauty industry



Source: Blue Lotus (as of Jan. 9, 2020)

Greater security: Tmall Medical Aesthetic/ AliHealth has entered into strategic partnership with several upstream quality enterprises, such as Alleragan (Global leading pharmaceutical company) and helped it set up flagship store on Tmall platform. Users with beauty treatment demand are able to directly purchase injectables such as (Juvederm and BOTOX) on Tmall, and then going to the designated offline clinics to operate the respective treatments. Users will thus have greater awareness on the upstream brands and will be less likely to be cheated by offline beauty clinics. Those injectable materials purchased from Tmall generally with high credibility and the verified institutions will offer them with greater security as well. In addition, Tmall will verify the background of those medical clinics on Tmall platform, and screen out unqualified clinics with bad records, and hence users will be less likely to encounter with those rip-off merchants and will be less exposure to "black clinics."

Exhibit 72. Directly cooperated with upstream pharma enterprises to offer greater security to users

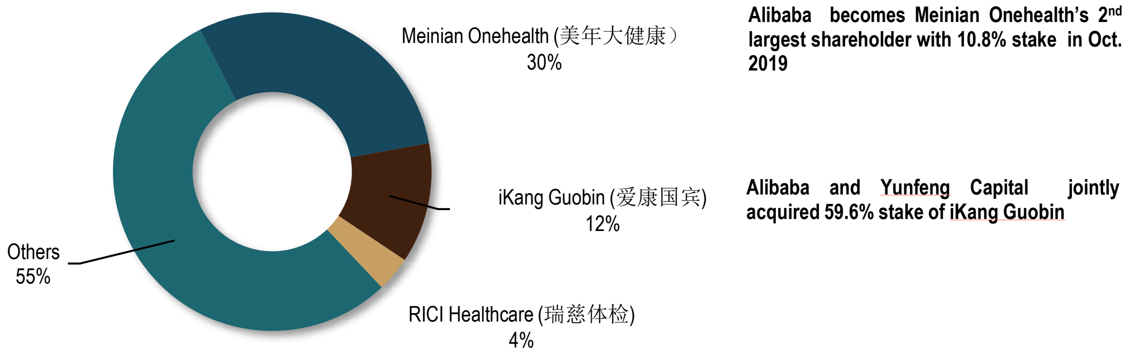


Source: Blue Lotus (as of Jan. 9, 2020)

- **Accelerating its business layout in health check-up market**

Alibaba has accelerated its pace in physical examination segment since 2019, to acquire 59.6% and 10.8% of iKang Guobin and Meinian Onehealth respectively, the top two private health check-up players in China with a combined market share of more than 40%. Moreover, the platform has been the first to create the "examine first and pay later" model on Alipay by granting micro credit to users for physical examination, which will bring greater convenience to the customer end.

Exhibit 73. China's private health check-up market share in 2018



Source: Company release, Local media, Blue Lotus (as of Jan. 9, 2020)

Innovative healthcare services support future transformation

Innovative healthcare related services consist of internet healthcare and intelligent medicine services, and this business line still at an early development stage with less than 1% revenue contribution. Going forward, we view internet healthcare services will gradually develop with the increasing number of consultations, particularly from exclusive Alipay channel, while intelligent medicine business will help better serve medical institutions achieve higher operational efficiency. However, these two businesses were not poised to be a large revenue stream given the nature of medical consultation (low consumption frequency + low unit price), as well as its early-days intelligent medicine products.

Internet healthcare services

AliHealth is relying on previously established Alibaba Health Network Hospital to organize medical professionals to offer multi-faceted, multi-level, professional, and convenient health consultation services for Taobao, Tmall, and Alipay end-users. So far, more than 27,000 medical practitioners, pharmacists, and nutritionists have signed up with AliHealth to offer online medical services, of which more than 18,000 attended, were associate chief, or chief physicians.

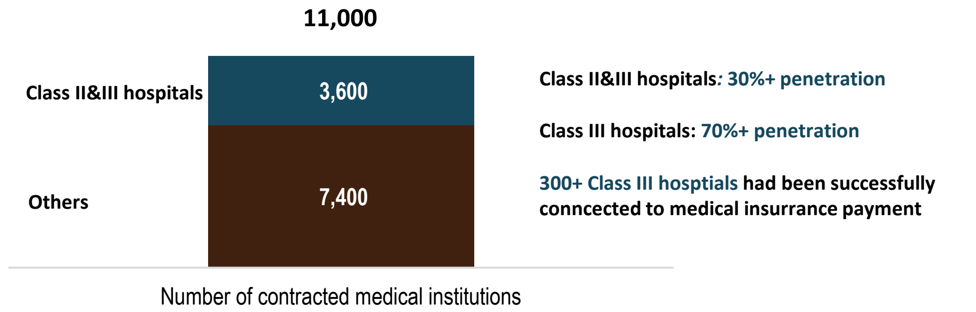
- **Exclusive healthcare channel of Alipay leaves large room for imagination.**

In November 2018, AliHealth announced the strategic partnership with Alipay to establish an exclusive and independent healthcare channel for Alipay's users, and the Group will be fully responsible for managing the healthcare industry partners within the channel.

- **Starting from "B" side rather than establishing an in-house medical team.** The process of online diagnosis and treatment does not only perform in a simple C2C model to connect doctors with patients, but also need to rely on hospitals with support of medical devices and technology.

Unlike PAGD, with self-employed medical staffs, AliHealth starts from a 2B2C model to seek more cooperation with the hospital end. To be specific, the Group assist hospitals establish their internet departments and sign up to Alipay's healthcare channel to digitalize the medical process and alleviate offline hospital's excessive burden via hierarchical consultation. As of September 2019, Alipay owned over 11,000 contracted medical institutions, including more than 3,600 Class II and Class III hospitals, along with ~30% penetration rate. We believe there will be more medical intuitions entering into Alipay to deliver better and convenient medical consultation services to the user front.

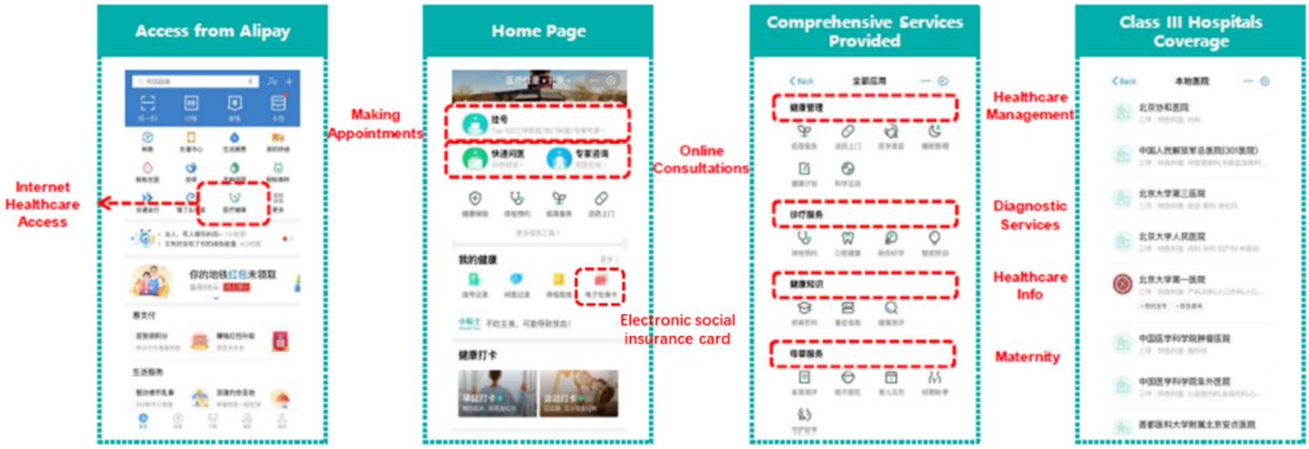
Exhibit 74. Hospital coverage as of 1HFY20



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

- **Alipay's massive traffic and payment scenario unlocks the great potential.** China's regulator rolled out the electronic medical insurance certificate in November, by which users can bundle their social medical insurance card with Alipay or Tenpay and then make direct payment for medical consultation or drug purchase in hospitals or offline pharmacies. The service is currently only available in 20 cities and 7 provinces, and is proposed to push into use at a broader country-level in the future. The number of MAUs using Alipay's medical and healthcare services in hospital settings exceeded 17mn as of September 2019. Alipay has massive traffic with more than 700mn annual active users and led China's third-party payment market with ~50% market share. We think the high traffic entrance and payment scenarios on Alipay will combined enhance customers' brand awareness toward the platform and thus will bring incremental benefits to AliHealth's medical consultation and drug purchase services going forward.

Exhibit 75. Healthcare channel on Alipay



Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

- **Pioneering the way forward in the healthcare industry**

− **Introduced a unique internet hospital platform with "B2G2B2C" Model**. In early 2019, the Group officially launched China's first internet hospital platform with B2G2B2C model (business-to-government-to-business-to-consumer) to integrate regulatory with service capabilities, the Zhejiang Internet Hospital Platform (浙江省互联网医院平台). The platform comprises a service sub-platform and a supervision sub-platform, of which the patient-oriented service sub-platform serves as a unified gateway to internet hospital services on Alipay, while the supervision sub-platform was adopt by relevant authorities to supervise the process before, during and after internet consultation activities carried out by medical institutions. This internet hospital platform has become a model project of the National Health Commission of the PRC. As of September 2019, more than 130 medical institutions (including Class III A hospitals) have registered on the platform, with coverage of all prefecture-level cities in Zhejiang Province.

− **Unveiled the first online medical insurance payment platform for chronic disease management**. In October 2019, AliHealth joined hands with Quzhou Municipal Government of Zhejiang Province to roll out the first chronic disease management platform enabled online medical insurance payment in China. Previously, patients with chronic disease conditions have to repeatedly go to hospitals, pay medical bills and pick up medicines, and the new platform now saves patients the trouble of making return visits and offers them the option of having their medicine delivered straight to home with medical insurance payment. This chronic disease management service in Quzhou has integrated with the Zhejiang Internet Hospital as well, to further achieve the prescription online circulation and fulfill the principal concept of provincial and municipal government.

Exhibit 76. Prescription online circulation model

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

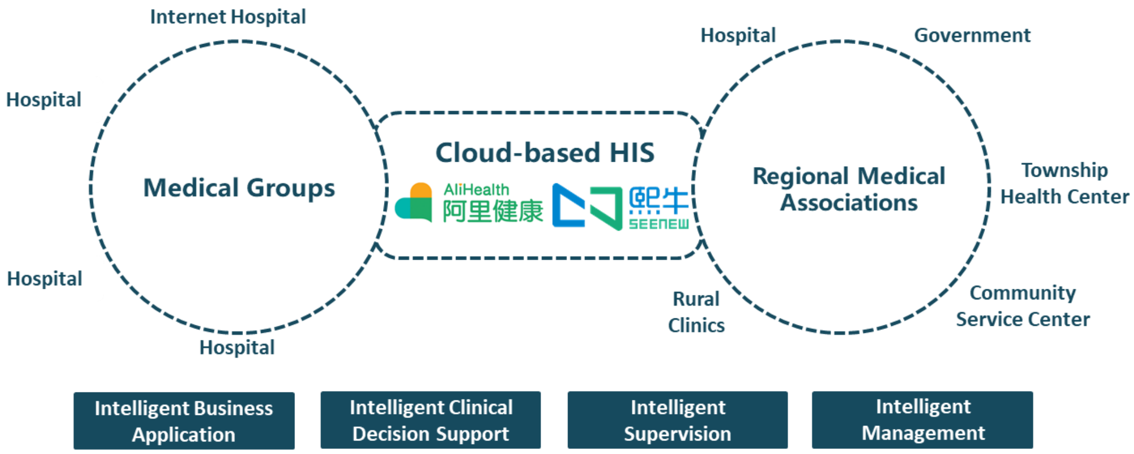
Intelligent medicine business

The Group has been actively exploring the intelligent medicine field, to accelerate the informatization, digitalization, and smart automation of medical intuitions by leveraging on digital information, AI, and big data technologies. In September 2018, the Group and Alibaba Cloud jointly announced the strengthened cooperation and the co-establishment of the Alibaba Medical Artificial Intelligence System, **"Medical Brain 2.0."** Related application scenarios and the major progress they achieved are as follows:

- **Text analysis**: **CDSS**（临床辅助决策支持系统）refers to clinical decision support system, and was used for helping physicians collect diagnosis and treatment information, equipping them with standardized assisted diagnosis decisions, medication and examination treatment plans reminders, as well as relevant disease knowledge and information. There were more than 20 contracted medical intuitions that commercially used AliHealth's CDSS products as of the end October of 2019.
- **Image Analysis*:*** "**Smart Lung**"（智能肺） is used to detect common lung diseases, which was put into use in partner institutions.
- **Physiological Signals Analysis:** 1) **EEG epilepsy AI Engine**（脑癫痫病AI引擎）is applied automatically to identify abnormal wave patterns on various EEG (Electroencephalogram) maps and help doctors read EEGs with improved efficiency and quality. 2) **Brain health screening AI products**（脑健康筛查AI引擎）was adopted to carry out quantitative analysis on EEGs, with a wide range of application scenarios in terms of the indication of depression and evaluating the risk of Alzheimer's Disease.

The Group has also participated in the information transformation of offline medical institutions and assist them connecting to the internet through the **Cloud-based Hospital Information Systems (HIS)** products developed by its subsidiary Seenew Technology. On one hand, they are capable of achieving the unified process control, service level, and quality standards for all branches within the medical groups/medical associations. On the other hand, the regional cloud-based HIS system for medical institutions in districts and counties, will strengthen the interconnection between medical institutions and medical administrative units in the regions, and hence reduce the cost of informatization upgrade, and improve the efficiency and value of the extraction and application of medical data.

Exhibit 77. Cloud-based hospital information systems (HIS)



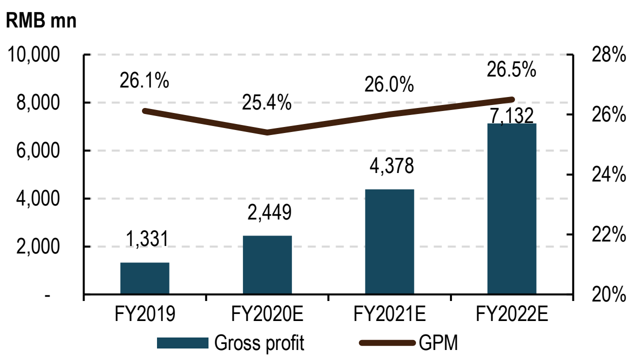
Source: Company presentation, Blue Lotus (as of Jan. 9, 2020)

Margin improves with operating leverage

Under substantial benefits from prescription drug market and rising traffic conversion from Alibaba's portals, we project AliHealth's total revenue to increase 74% 3-yr CAGR to reach RMB 26,911mn in FY22. Its self-operated and platform eCommerce business will keep robust growth momentum with more than 70% 3-yr CAGRs, while tracking services is estimated to grow steadily at a 14% 3-yr CAGR. Consumer healthcare business will potentially become another growth engine, and its innovative healthcare related services are expected to surge as well, with 3-yr CAGRs of 107% and 152%, respectively.

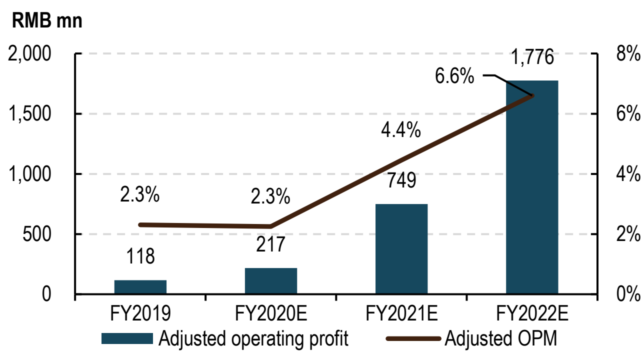
On the margin front, GPM will see gradual improvement from 25.4% to 26.5% during FY20-FY22, while Non-HKFRS OPM will further increase from 2.3% in FY19 to 6.6% in FY22, attributable to the enhanced operating efficiency through economies of scale, via leveraging by Alibaba's logistic infrastructure, technology support and cross-selling opportunities.

Exhibit 78. AliHealth's GPM



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Exhibit 79. AliHealth's Non-HKFRS OPM



Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Valuation and peer comps

DCF and PE multiples valuation

We derive our TP by using average of DCF valuation and PE multiples. We expect the newly released policies would be the key drivers for PAGD and AliHealth's profitability growth, and estimate 3 years after initial year of implementation would justify a sustainable period. Therefore, we use PAGD and AliHealth's FY24/FY23's net profit respectively, to calculate our PE based target price. Moreover, our target PE multiples for PAGD/AliHealth is based on 30%/ 20% premium of historical average PE of China offline chain pharmacy companies at 31x, and the premium is mainly reflecting their online business model, diversified businesses, and strong parent companies.

Exhibit 80. PAGD DCF model

RMB mn	FY18	FY19E	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E
Group revenue	3,338	5,024	7,127	10,041	13,401	16,850	20,276	23,288	25,808	27,391	28,420
EBIT	(1,121)	(1,032)	(693)	(232)	448	1,037	1,710	2,434	3,000	3,431	3,800
NOPAT	(1,119)	(1,028)	(691)	(231)	446	1,033	1,703	2,425	2,989	3,418	3,786
Capex	(98)	(151)	(214)	(301)	(402)	(505)	(608)	(699)	(774)	(822)	(853)
Depreciation & amortization	45	82	135	210	312	443	605	794	1,008	1,239	1,482
Change in working capital	46	693	656	851	870	822	749	595	520	306	138
Free operating CF (FoCF)	(1,126)	(404)	(113)	528	1,226	1,792	2,449	3,116	3,742	4,141	4,554
WACC		10.7%									
NPV of FOCF (Enterprise Value)		49,558									
- Net debt (cash), current		(6,274)									
- Minorities (Market value)		67									
=Equity value		55,764									
# of shares		999									
= NPV per share (HK$)		**62.2**									
PE Multiples valuation											
FY24 adjusted net income		2,056									
Target PE multiple		40									
Implied Target Market cap		82,863									
WACC		10.7%									
# of shares		999									
Implied 12-month TP (HK$)		**61.6**									
Average TP		**61.9**									

Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

Exhibit 81. AliHealth DCF model

RMB mn	FY19	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E
Group revenue	5,096	9,644	16,838	26,911	37,348	49,432	60,224	70,227	80,188	89,672	98,316
EBIT	118	217	749	1,776	2,876	4,202	5,480	6,812	8,259	9,747	11,247
NOPAT	58	152	637	1,510	2,444	3,571	4,658	5,790	7,020	8,285	9,560
Capex	(6)	(12)	(20)	(32)	(45)	(59)	(72)	(84)	(96)	(107)	(118)
Depreciation & amortization	4	4	5	7	9	12	15	19	24	30	36
Change in working capital	212	87	105	137	121	142	122	103	95	81	63
Free operating CF (FoCF)	268	232	727	1,621	2,530	3,666	4,724	5,829	7,043	8,289	9,542
WACC		10.3%									
NPV of FoCF		114,209									
+ Net cash (debt), current		(1,037)									
- Minorities (Market value)		(71)									
=Equity value		115,317									
/ Number of shares		11,836									
= NPV per share (HK$)		**10.9**									
PE Multiples valuation											
FY23 adjusted net income		4,105									
Target PE multiple		37.2									
Implied Target Market cap		152,709									
WACC		10.3%									
/ Number of shares		11,836									
Implied 12-month TP (HK$)		**11.8**									
Average TP		**11.3**									

Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

Historical Forward P/S Chart

PAGD is trading at of 7.4x forward 12-month PS ratio, roughly in the historical median level and within a +/- one standard deviation post listing in May 2018, while AliHealth with a slight lower valuation of 6.3x forward 12-month PS multiple, and at the lower bound of its +/- one standard deviation.

Exhibit 82. PAGD forward 12-month P/S chart

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Exhibit 83. AliHealth forward 12-month P/S chart

Source: Company release, Blue Lotus (as of Jan. 9, 2020)

Comp Table

Exhibit 84. Comp Table of internet healthcare industry

Company	Ticker	Price	Market Cap	PS			PE			EV/EBITDA		
		(Local)	(US$mn)	19E	20E	21E	19E	20E	21E	19E	20E	21E
Internet healthcare												
Ping An Good Doctor	1833 HK	57.25	7,856	10.8	7.4	5.2	NM	NM	NM	NM	NM	NM
Alibaba Health	241 HK	9.87	15,263	10.7	6.3	4.1	555.2	237.3	99.8	516.1	217.7	80.6
Domestic peers												
eCommerce												
Alibaba	BABA US	217.63	583,841	7.8	6.1	4.9	31.2	25.8	20.6	23.8	19.0	15.3
JD	JD US	38.32	55,953	0.7	0.6	0.5	37.2	27.0	20.2	25.0	17.5	13.7
Pinduoduo	PDD US	41.21	47,901	10.9	6.6	4.8	NM	NM	40.9	NM	NM	NM
Vipshop	VIPS US	14.97	10,015	0.8	0.7	0.7	15.6	12.3	11.3	11.5	9.2	8.4
Verticals												
SoYoung	SY US	14.14	1,445	8.9	5.3	3.1	36.6	20.7	9.1	29.2	17.3	6.4
Autohome	ATHM US	82.81	9,776	8.1	7.4	6.6	21.2	19.7	17.3	17.2	15.6	13.9
Private insurers												
Ping An Group	2318 HK	92.45	221,157	1.3	1.2	1.0	9.5	9.5	8.1	NA	NA	NA
Offline pharmacy chains												
Yifeng	603939 CH	74.00	4,039	2.8	2.1	1.7	49.6	37.9	29.5	32.2	25.0	19.7
Laobaixing	603883 CH	64.63	2,669	1.6	1.3	1.0	34.8	28.3	22.7	23.3	19.2	15.6
Yixintang	002727 CH	23.92	1,956	1.3	1.1	0.9	22.2	18.5	15.6	15.4	12.9	11.0

DaShenlin	603233 CH	52.65	4,092	2.6	2.1	1.7	40.9	32.4	26.4	25.8	21.4	18.0
Global peers												
Offline pharmacy chains												
CVS Health	CVS US	73.58	95,725	0.4	0.4	0.4	10.4	10.3	9.7	10.3	9.9	9.5
Walgreens Boots Alliance	WBA US	59.29	52,649	0.4	0.4	0.4	10.0	10.0	10.0	8.3	8.4	8.5
Health insurers												
UnitedHealth	UNH US	289.79	274,551	1.1	1.1	1.0	19.2	17.7	15.7	13.9	12.5	11.2
Humana	HUM US	366.87	48,583	0.7	0.7	0.6	20.5	19.9	17.4	10.5	9.4	8.5
Internet healthcare												
Teladoc Health	TDOC US	85.73	6,205	11.3	9.1	7.4	NM	NM	NM	206.3	98.4	58.9

Source: Bloomberg, Blue Lotus (as of Jan. 9, 2020)

Investment Thesis

We initiate both PAGD/AliHealth as BUY rating with TP of HK$ 62/ HK$ 11.

PAGD with unique business model will find its own way

- Market leader in terms of user scale and stickiness, as well as the number of online consultations, supported by its AI-assisted in-house medical team.
- Leveraging by Ping An Group's synergy and strong support, membership products "Health 360" and "Private Doctor" will be main drivers of online medical services' explosive growth in the near term. But for the long-term, we are concerned on the supply side with the difficulty in acquiring "premium" doctors further.
- Health mall will remain as the main revenue contributor, while consumer healthcare and health management and wellness interactions services will mostly enjoy healthy growth.
- Margin is still under pressure in the short term, mainly because of "attractive" remuneration offered to acquire "premium" doctors, marketing spends on membership products promotion, and the large procurement from Ping An Group with volume discounts. Long term wise, PAGD is expected to achieve breakeven in FY22 and margin will gradually improve as increasing revenue contribution from online medical services with higher margin, and economies of scale.
- Backed by China's insurance giant Ping An Group, PAGD with ample funds will offer a cushion and allow more attempts in mapping out a more efficient business model.
- PAGD is the Group with the most potential to become China's Kaiser Permanente, but there's still a long way to go.

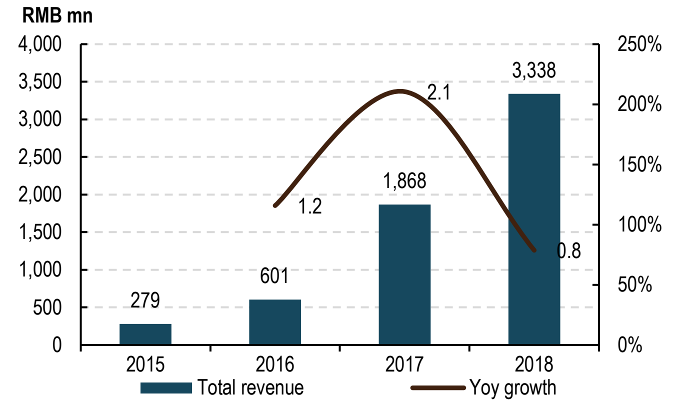
AliHealth is well-prepared to capture the tailwind

- Healthcare Flagship of Alibaba, and will benefit from low-cost traffic from Alibaba's high-traffic portals, such as Taobao and Alipay.
- Pharmaceutical eCommerce-related businesses are exposed to strong industry tailwind, particularly from prescription drug market: 1) accelerated prescription drug outflow from hospital terminal; 2) easing regulation in terms of online prescription drug sales
- Consumer healthcare might be the new growth engine with strong layouts on medical aesthetic, health check-up and vaccine segments.
- Internet healthcare services will see great upside potential owing to gaining exclusive and independent healthcare channel on Alipay.
- Operational efficiency could further improve through economies of scale, through leveraging its parent company Alibaba's strong logistic infrastructure, technology support, and cross-selling opportunities.

Appendix 1: Key financials & operating data

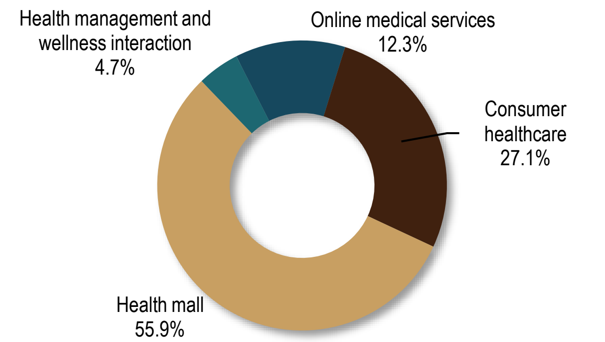
Key financials – Ping An Healthcare and Technology

Exhibit 85. Revenue FY15-FY18 CAGR is 128.8%



Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

Exhibit 86. Revenue breakdown in 2018



Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

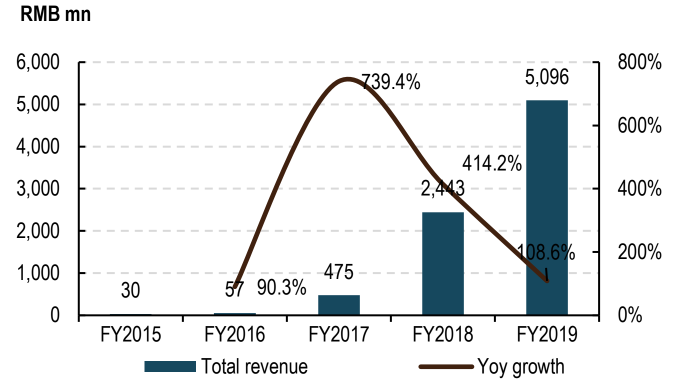
Exhibit 87. PAGD Operating Data

RMB mn	2018	2019E	2020E	2021E
Number of registered users (mn)	265	310	357	393
MAU (mn)	54.7	65.6	68.9	72.0
MPU (mn)	2.4	3.3	4.1	5.0
Daily average consultations (mn)	0.54	0.68	0.84	1.01
Number of medical personnel in the in-house medical team	1,196	1,350	1,485	1,604
Online medical services	**411**	**785**	**1,435**	**2,497**
yoy growth	*69.6%*	*91.1%*	*82.8%*	*74.0%*
Consumer healthcare	**905**	**1,023**	**1,136**	**1,238**
yoy growth	*38.2%*	*13.0%*	*11.0%*	*9.0%*
Health mall	**1,864**	**2,980**	**4,226**	**5,877**
yoy growth	*108.1%*	*59.8%*	*41.8%*	*39.1%*
GMV	2,973	4,888	6,929	9,630
Health management and wellness interaction	**157**	**236**	**330**	**429**
yoy growth	*111.5%*	*50.0%*	*40.0%*	*30.0%*

Source: PAGD, Blue Lotus (as of Jan. 9, 2020)

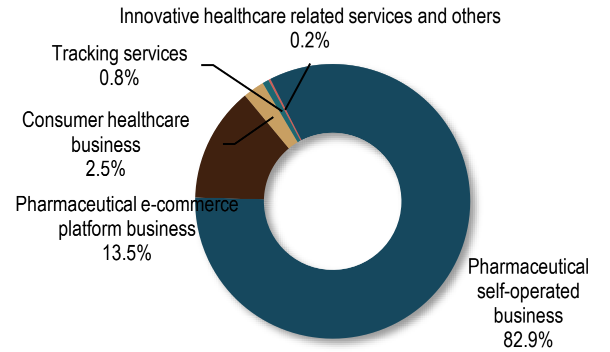
Key financials – Alibaba Health

Exhibit 88. Revenue FY16-FY19 CAGR is 348.2%



Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

Exhibit 89. Revenue breakdown in 2018



Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

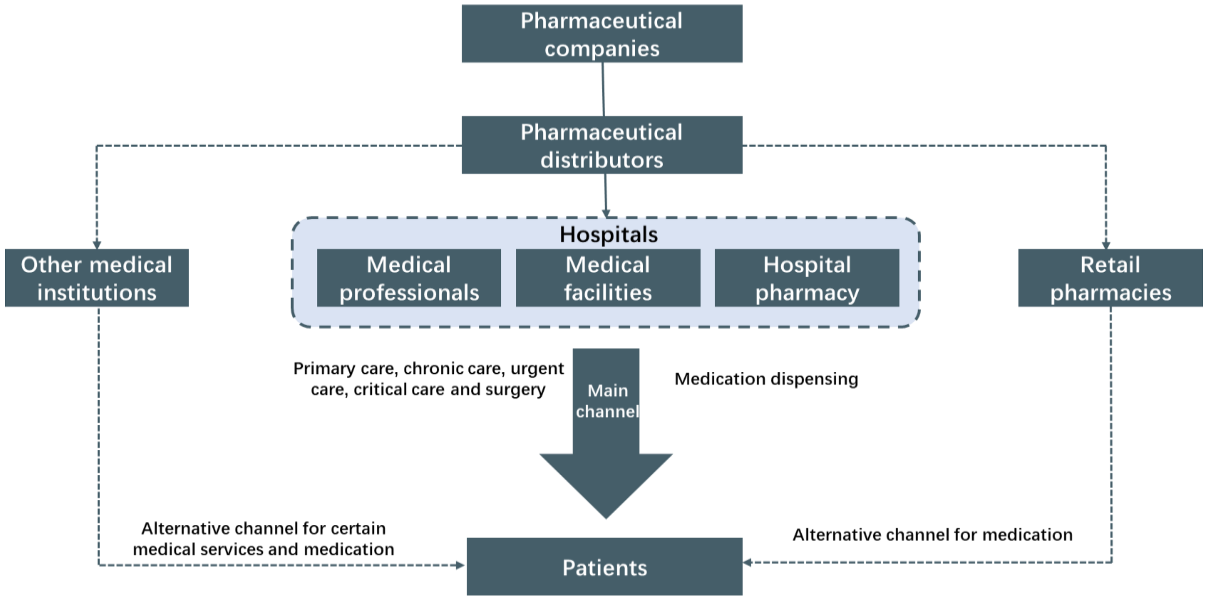
Exhibit 90. AliHealth Operating Data

RMB mn	FY2019	FY2020E	FY2021E	FY2022E
Pharmaceutical self-operated business (B2C-focused)	**4,227**	**7,653**	**13,511**	**21,767**
yoy growth	*91.3%*	*81.1%*	*76.6%*	*61.1%*
Annual active consumers on AliHealth Pharmacy and AliHealth overseas flagship store (mn)	27	46	76	114
ARPU (RMB)	157	167	178	192
Pharmaceutical eCommerce platform business (B2B2C)	**690**	**1,575**	**2,513**	**3,763**
yoy growth	*296.8%*	*128.2%*	*59.6%*	*49.7%*
Annual active consumers of Tmall Pharmacy platform (mn)	130	194	262	334
Average GMV per active consumer (RMB)	425	451	480	512
GMV generated by Tmall Pharmacy platform operated by the group (RMB bn)	60	95	139	193
Consumer healthcare business	**128**	**333**	**667**	**1,134**
yoy growth	*275.5%*	*160.0%*	*100.0%*	*70.0%*
Tracking business	**39**	**45**	**51**	**57**
yoy growth	*59.0%*	*15.0%*	*14.0%*	*12.0%*
Innovative healthcare related services and others	**12**	**38**	**96**	**191**
yoy growth	*1123.2%*	*220.0%*	*150.0%*	*100.0%*

Source: AliHealth, Blue Lotus (as of Jan. 9, 2020)

Appendix 2: Prescription drug outflows

Exhibit 91. Current healthcare system in China



Source: 111 Group prospectus, Blue Lotus (as of Jan. 9, 2020)

Exhibit 92. Continuous release of policies to accelerate the outflow of prescription drugs from hospitals

Zero Mark-up Policy (零加成）	•The **zero mark-up policy** for drug sales was introduced in 2009 by the China Central Communist Party and the China State Council, **eradicates incentives to sell more expensive medicines**, which **encourages hospitals to outsource pharmacy services to pharmacies.**
% of Drug Sales in Public Hospitals （药占比）	•In 2015, PRC government announced to **decrease the percentage of drug sales in public hospitals'** revenue composition to below 30%, **to facilite the outflow of prescritpion drugs from hosptial end.**
Two-invoice System （两票制）	•The **two-invoice system**, which was implemented through a pilot program by the PRC government in 2016, requires pharmaceutical products to be processed by only one distributor from manufacturers to hospitals, **to consolidate fragmented distributor market and eventually to lower the overall prices that patients have to pay.**
"4+7" Bulk Pocurement （4+7带量采购）	•In Nov. 2018, the State Medical Insurance Administration (SMIA) of China officially launched "4+7" bulk purchase procurement, **aimed to to slash generic drug prices and encourage the consolidation of a fragmented system for procuring generic drugs in the country**, starting with 11 major cities (4 municipalities and 7 provincial cities).

Source: 111 Group prospectus, Blue Lotus (as of Jan. 9, 2020)

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