ClouDr (9955 HK)

Digitalizing the chronic condition management market in China

BUY

Target Price	**HK$31.43**
Up/Downside	**103.0%**
Current Price	**HK$15.48**

China Healthcare

Jill WU, CFA
(852) 3900 0842
jillwu@cmbi.com.hk

Benchen HUANG, CFA
huangbenchen@cmbi.com.hk

Stock Data

Mkt Cap (HK$ mn)	8,840.8
Avg 3 mths t/o (HK$ mn)	NA
52w High/Low (HK$)	NA/NA
Total Issued Shares (mn)	587.0

Source: FactSet

Shareholding Structure

Ming Kuang	15.2%
Prime Forest Assets	12.5%

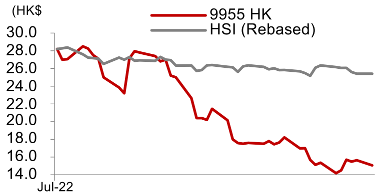
Source: HKEx

Share Performance

	Absolute	Relative
1-mth	-29.8%	-27.1%
3-mth	NM	NM
6-mth	NM	NM

Source: FactSet

12-mth Price Performance



Source: FactSet

Initiate at BUY. ClouDr is a pioneer and leader in China's digital healthcare industry with a focus on chronic condition management in the scenarios of hospitals, pharmacies and individual users. According to F&S, the Company is the largest digital chronic condition management solution provider in China in terms of numbers of SaaS installations in hospitals and pharmacies as of 2021.

- **Big market potential of digital chronic condition management in China.** China has the world's largest chronic condition patient population, with a significant portion of healthcare spending on chronic conditions. According to F&S, Chinese patients spent ~RMB4.1tn on chronic condition management in 2020, representing ~2x as high as the RMB2.1tn spending of China medical security fund in 2020. Given the need for long-term care, requirement of systematic record of medical data, and relatively low medical risk profile, chronic condition management is suitable for adopting digital solutions.
- **Scalable business model.** Leveraging its large installation base of SaaS in hospitals (6.4% penetrated as of 2021) and pharmacies (28.5% penetrated as of 2021), ClouDr is able to monetize its SaaS network by providing medical supplies to hospitals and pharmacies and offering digital marketing services to pharmaceutical companies. ClouDr adopts a hospital-first strategy as hospitals are playing a central role in China's chronic condition management market. Via its hospital SaaS, the Company has established sticky relationships with 1,740 Class III & II public hospitals (as of Jun 2022) in China to better capture the market value of chronic condition management.
- **Leading position in China's digital chronic condition management market.** ClouDr's in-hospital SaaS was installed in 2,490 hospitals in China as of Jun 2022, with a specific focus on chronic condition management. Hospitals typically have a high level of stickiness to ClouDr's SaaS due to the significant work efficiency improvement to daily work of doctors and nurses and high replacement cost. For pharmacy services, ClouDr leverages its large installation base of pharmacy SaaS to provide supply chain management services for pharmacies and to offer online consultation and prescription fulfillment for walk-in customers. In digital marketing service area, customers can achieve high marketing efficiency thanks to the precise reaching of doctors using ClouDr's in-hospital SaaS.
- **Initiate at BUY.** Our TP of HK$31.43 is based on a 10-year DCF model (WACC: 10.0%, terminal growth: 3.0%). We forecast revenue to grow 60%/ 55%/ 40% YoY and adjusted net loss of RMB331mn/ RMB199mn in FY22E/ 23E and adjusted net profit of RMB149mn in FY24E.

Earnings Summary

(YE 31 Dec)	FY20A	FY21A	FY22E	FY23E	FY24E
Revenue (RMB mn)	839	1,757	2,809	4,358	6,120
YoY growth (%)	60.0	109.4	59.9	55.2	40.4
Gross margin (%)	27.7	32.4	30.4	35.5	35.9
Net profit (RMB mn)	(2,867.0)	(4,138.9)	(1,482.7)	(337.4)	48.5
Adjusted net profit (RMB mn)	(636.3)	(444.0)	(331.2)	(198.6)	148.6
EPS (Adjusted) (RMB cents)	NA	NA	(56.41)	(33.82)	25.32
P/S (x)	9.3	4.4	2.8	1.8	1.3

Source: Company data, Bloomberg, CMBIGM estimates

Contents

Investment Thesis

Exploring the big digital chronic condition management market in China

China has the world's largest chronic condition patient population, with a significant portion of healthcare spending on chronic conditions. According to F&S, Chinese patients spent approximately RMB4.1tn on chronic condition management in 2020 (representing ~2x as high as the RMB2.1tn spending of China medical security fund in 2020). Since chronic condition patients usually need both in- and out-of-hospital services, chronic condition management is the most suitable for adopting digital solutions among all health conditions, given the need for long-term care, recurring diagnosis and treatments, requirement of systematic record of medical data, and relatively low medical risk profile. With China's favorable regulatory support and the increasing acceptance of online healthcare services brought by the COVID-19 pandemic, the development of digitalization for the healthcare industry in China has accelerated, particularly for chronic condition management.

In order to capture the existing in-hospital chronic condition management market and extend such market to out-of-hospital scenarios, ClouDr has adopted a hospital-first strategy to provide an improved chronic condition management experience for patients in and out of hospitals, with effective solutions throughout the entire patient journey, covering major chronic conditions, such as cardiovascular diseases (such as hypertension and hyperlipidemia) and diabetes.

Riding on the healthcare digitalization wave in China, ClouDr experienced rapid revenue growth in the past years. Total revenue of ClouDr reached RMB524mn/ RMB839mn/ RMB1,757mn/ RMB1,380mn in 2019/ 2020/ 2021/ 1H22, representing YoY growth of 110%/ 60%/ 109%/ 95%. Meanwhile, ClouDr managed to improve its gross margin thanks to its successful execution of monetization strategy. The Company's blended gross profit margin was 11.7%/ 27.7%/ 32.4%/ 28.0% in 2019/ 2020/ 2021/ 1H22.

Scalable business model

ClouDr operates a digital chronic condition management business for all major participants in chronic condition management in China, offering comprehensive products and solutions to hospitals, medical professionals, pharmacies, pharmaceutical companies and individual users. The Company has three business solutions, namely in-hospital solution, pharmacy solution and individual chronic condition management solution.

ClouDr's in-hospital solution is the core business of ClouDr and mainly consists of hospital supplies, hospital SaaS and digital marketing services for pharmaceutical companies. Hospital supplies & SaaS and digital marketing services accounted for 75% and 25% of in-hospital solution revenue, respectively, in 1H22. As of Jun 2022, 2,490 hospitals had installed ClouDr's hospital SaaS, up by 38% YoY. The large installation base of ClouDr's in-hospital SaaS helps the Company to build sticky relationships with hospitals, allowing the Company to effectively monetize those relationships by providing a wide offering of medical supplies for hospitals and digital marketing services for pharmaceutical companies. However, the penetration rate of ClouDr's hospital SaaS is still low, which was only 6.4% for all hospitals and 11.9% of Class III & II public hospitals in China as of 2021, according to F&S.

ClouDr's pharmacy solutions consist of pharmacy supplies and pharmacy SaaS. Pharmacy supplies and pharmacy SaaS contributed 88% and 12% of pharmacy solution revenue, respectively, in 1H22. As of Jun 2022, the Company has installed its pharmacy SaaS in 185,731 pharmacy stores in China, up by 21% YoY. Leveraging its relationships with pharmaceutical companies and its access to upstream suppliers, ClouDr provides pharmacies with chronic condition related medical devices, consumables, and pharmaceuticals, with more expansive SKUs offered to pharmacies than to hospitals as the former has broader needs. Penetration rate of ClouDr's pharmacy SaaS was 28.5% as of 2021, according to F&S.

ClouDr's individual chronic condition management platform on which users can receive instant, professional care for chronic conditions and other health management services at any time and from anywhere. As of Jun 2022, ClouDr. Health had over 26.5mn registered users, representing an increase of 11% over end-2021.

Leading position in China's digital chronic condition management market

In terms of medical service capabilities in hospitals, ClouDr is comparable to Yidu (2158 HK, NR) and Winning Health (300253 CH, NR). ClouDr's in-hospital SaaS was installed in 2,490 hospitals in China as of Jun 2022, with a specific focus on chronic condition management. Hospitals typically have a high level of stickiness to ClouDr's SaaS due to the significant work efficiency improvement to daily work of doctors and nurses and high replacement cost (from both financial and time perspectives). In comparison, Yidu focuses on providing medical institutions with AI/big data-powered solution to help them conduct research in various therapeutic areas while Winning Health assists hospitals to digitalize in all patient-serving aspects.

For pharmacy-side services, ClouDr leverages its large installation base of pharmacy SaaS to provide supply chain management services for pharmacies and offer online consultation and prescription fulfillment for walk-in customers. ClouDr's major competitors, such as Ping An Good Doctor (1833 HK, BUY), Ali Health (241 HK, NR), JD Health (6618 HK, NR) and We Doctor, also collaborate with offline pharmacies to provide medicine services.

In digital marketing service area, Medlive (2192 HK, NR) is the closest peer to ClouDr. ClouDr charges customers based on service fee which is a percentage of medicine sales of customers while Medlive monetizes via a cost-per-click model. Customers can achieve high marketing efficiency by using services of ClouDr, due to the precise reaching to doctors by using ClouDr's in-hospital SaaS.

Initiate at BUY

We forecast ClouDr's revenue to grow by 60%/ 55%/ 40% YoY in 2022E/ 23E/ 24E, representing a 52% CAGR in 2022-24E, driven by 1) larger installation base of hospital and pharmacy SaaS, 2) hospital and pharmacy's higher reliance on ClouDr's platform for the supply of chronic condition management products, and 3) growing digital marketing services for pharmaceutical companies via ClouDr's platform. We expect its adjusted net income to turn positive in 2024E. We derive out TP of HK$31.43 based on a 10-year DCF model (WACC: 10.0%, terminal growth: 3.0%)

Investment risks

Investment risks include: 1) ClouDr is in the early stage of expanding and monetizing its business solution; 2) breakeven time is subject to uncertainties; 3) the Company is subject to extensive and evolving legal and regulatory requirement; and 4) pricing of the Company's products is subject to restrictions and regulations in China.

A pioneer in China’s digital chronic condition management sector

Founded in 2014, ClouDr is a pioneer and leader in China’s digital healthcare industry with a focus on chronic condition management. The Company provides supplies and SaaS to hospitals and pharmacies, digital marketing services to pharmaceutical companies, and online consultation and prescriptions to individual users. According to F&S, the Company is the largest digital chronic condition management solution provider in China in terms of numbers of SaaS installations in hospitals and pharmacies as of 2021, and number of online prescriptions issued through its platform in 2021.

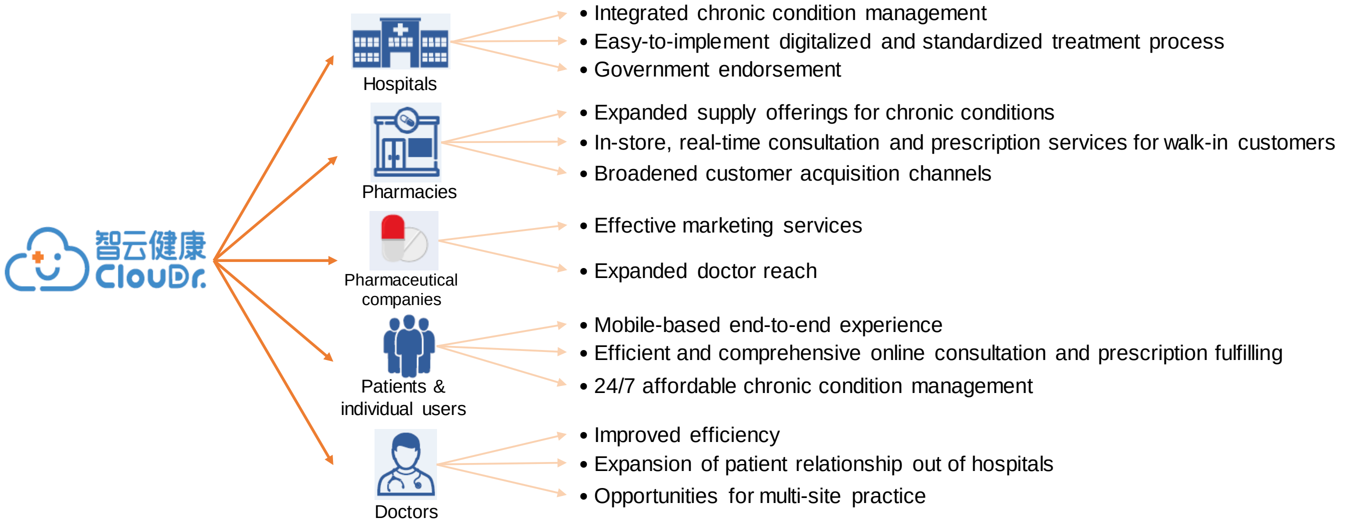
Figure 1: Major milestones of ClouDr

Year	Development milestones
2014	Established Hangzhou Kangsheng
2015	Incorporated ClouDr, as the holding company of the Group Launched the first version of patient facing app for chronic conditions management
2016	Launched hospital SaaS for chronic condition management which was the first of its kind in China Obtained pharmaceutical business license (药品经营许可证) and license of drug information service over the internet (互联网药品交易服务许可证)
2017	Formed its first exclusive partnership to regionally sell medical device and consumables with a global leading company in chronic condition management
2018	Deployed first hospital wide integrated (全院管理) SaaS solution in a leading Class III hospital in China Obtained its first Internet hospital license
2019	Launched pharmacy SaaS for online consultation and prescription
2020	Launched enhanced functions of inventory management and new retail services under the pharmacy SaaS products
2021	Reached over 87,000 registered doctors and 3.8mn registered users on its platform

Source: Company data, CMBIGM

ClouDr’s service offerings include in-hospital solution, pharmacy solution, and individual chronic condition management solution. Its in-hospital solution is involved with sales of medical devices, consumables and pharmaceuticals (to fulfill in-hospital needs of chronic condition management), hospital SaaS (to improve the efficiency and effectiveness of in-hospital chronic condition management), and digital marketing services to pharmaceutical companies (by leveraging its hospital network). Its pharmacy solutions consist of sales of medical devices, consumables, and pharmaceuticals (primarily related to chronic condition management), and pharmacy SaaS (to enable online prescription issuance and fulfillment). ClouDr’s individual chronic condition management solution connects doctors and patients to achieve out-of-hospital consultation and prescription for chronic condition management.

Figure 2: ClouDr's value proposition



Source: Company data, CMBIGM

Benefiting from the vast market of chronic condition management in China

China has the world's largest chronic condition patient population, with a significant portion of healthcare spending on chronic conditions. According to F&S, Chinese patients spent approximately RMB4.1tn on chronic condition management in 2020 (representing ~2x as high as the RMB2.1tn spending of China medical security fund in 2020). While chronic condition patients usually need on-going medical care and recurring prescription, which require both in- and out-of-hospital services, China's healthcare services are still heavily concentrated in public hospitals, according to Frost & Sullivan, generating high demand to connect in-hospital services with out-of-hospital ones.

Figure 3: Challenges in chronic condition management in China

Type of challenges	Details
Low level of digitalization	Chronic condition management in China centers on in-hospital healthcare services, where medical services heavily rely on manual operations which are not capable of automated EMR generation and updating, in- and out-of-hospital medical condition tracking and lack of a national patient database to support digital chronic condition management
Massive patient base and increasing prevalence of chronic conditions	The demographic shift in China is expected to create significant demand for chronic condition management. The number of patients with hypertension and diabetes in China was around 324mn and 133mn in 2020
Scarcity and uneven distribution of quality medical resources	China's high-quality medical resources are concentrated in large Class III and Class II hospitals, which represented 37.9% of the total number of hospitals nationwide but provided 89.2% of healthcare services that were provided through outpatients visits in 2020
Inferior medical service experience	In 2020, patients in China spent approximately 3 hours (on average) on an offline outpatient visit, of which only around 8 minutes were spent on diagnosis, discouraging chronic condition patients from maintaining the regular touchpoints with doctors
Limited insurance coverage for chronic condition management	Out-of-pocket expenditure on chronic condition management in China accounted for 45.6% of the chronic condition healthcare spending in China in 2020

Source: Company data, CMBIGM

Chronic condition management is the most suitable for adopting digital solutions among all health conditions, given the need for long-term care, recurring diagnosis and treatments, requirement of systematic record of medical data, and relatively low medical risk profile. Patients with chronic conditions typically need routine follow-ups, continuous prescription renewals and treatment over long periods of time. Therefore, the doctor-patient interaction is more frequent and patients' medical records need to be periodically updated and reviewed. Specifically, patients not only demand efficient diagnosis and in-hospital medical care, but also need continuous out-of-hospital management. With China's favorable regulatory support and the increasing acceptance of online healthcare services brought by the COVID-19 pandemic, the development of digitalization for the healthcare industry in China has accelerated, particularly for chronic condition management.

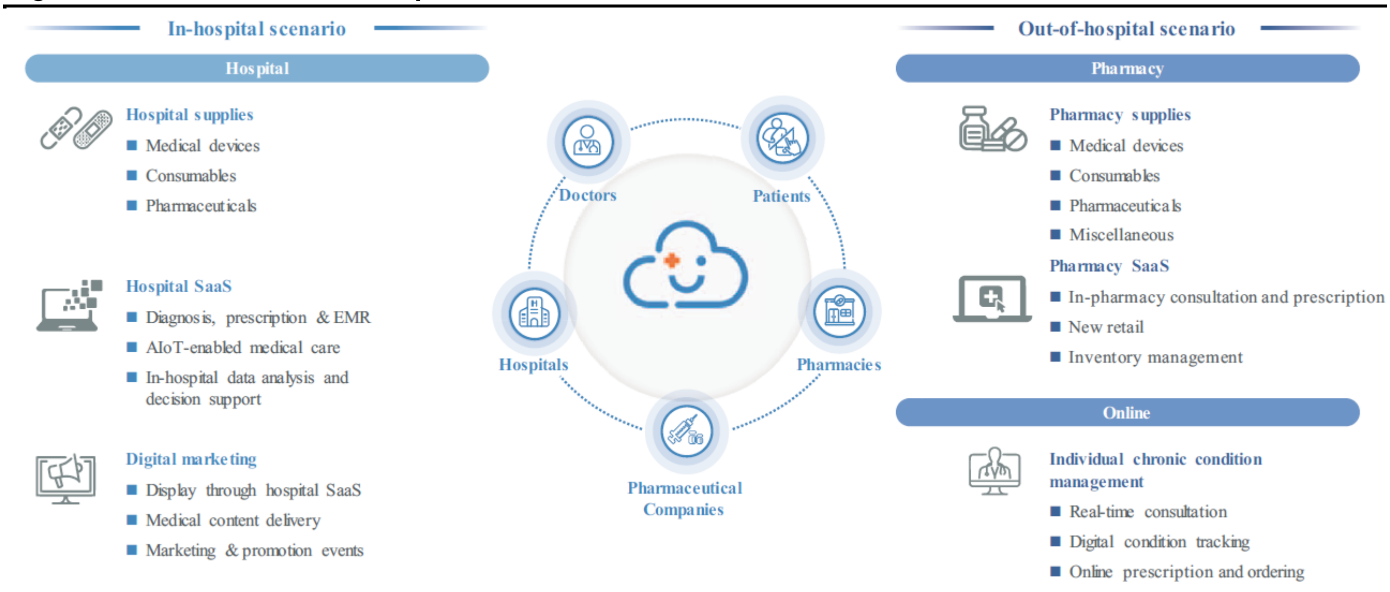
Figure 4: Core value proposition of digitalization in chronic condition management

Type of core value proposition	Details
Providing long-term care	Tracing a patient's health condition and records over a long period
Allowing recurring diagnosis and treatment	Facilitating recurring diagnosis and treatment, and allowing patients to communicate with doctors remotely to receive diagnosis and treatment anytime and anywhere
Storing systematic record of medical data	Enabling health condition tracking and recording through the usage of AIoT medical devices, both in and out of hospitals
Solving limited and unequal access to medical resources	Patients can access to doctors from higher tier hospitals and conduct chronic condition treatment and prevention through internet hospitals beyond physical constraints
Facilitating easier purchase of prescription drugs	Internet-based platforms enable online medications ordering after doctors' review and prescription and delivery at their doorway. In particular, recent policy guidelines in China are promoting prescriptions outflow, making prescription drugs more accessible out of hospitals

Source: Company data, CMBIGM

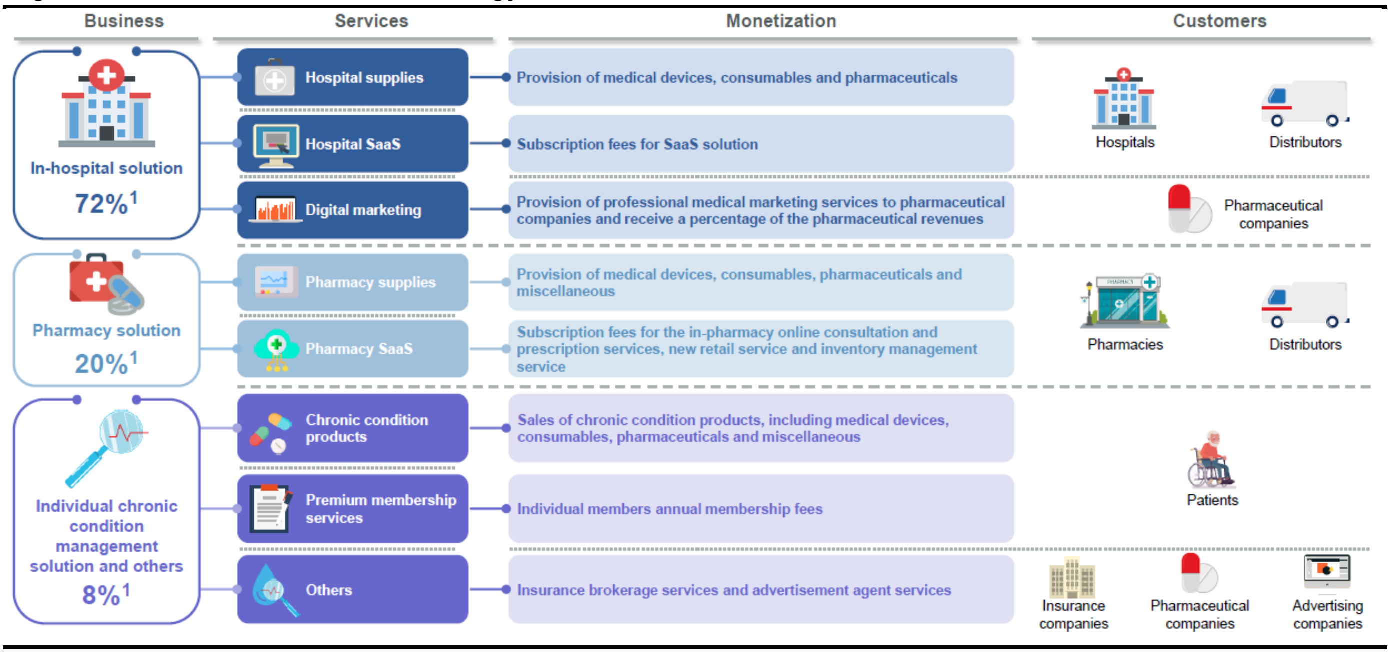
In order to capture the existing in-hospital chronic condition management market and extend such market to out-of-hospital scenarios, ClouDr has adopted a hospital-first strategy to provide an improved chronic condition management experience for patients in and out of hospitals, with effective solutions throughout the entire patient journey, covering major chronic conditions, such as cardiovascular diseases (such as hypertension and hyperlipidemia) and diabetes.

Figure 5: ClouDr's business snapshot



Source: Company data, CMBIGM

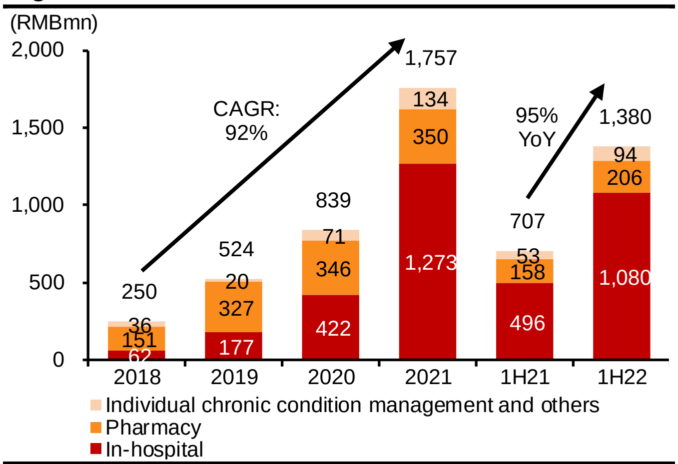
Figure 6: ClouDr's monetization strategy



Source: Company data, CMBIGM

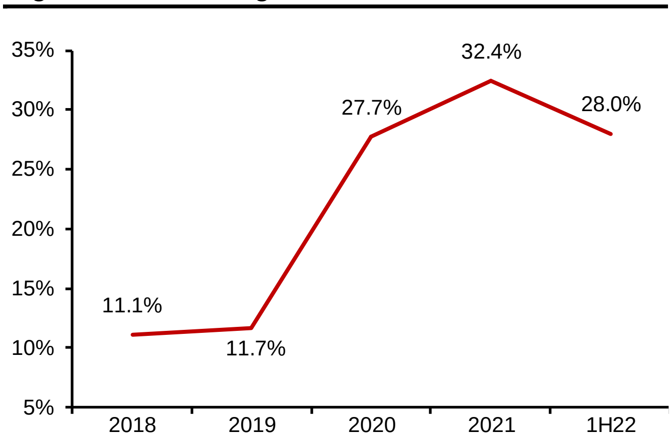
Riding on the healthcare digitalization wave in China, ClouDr has experienced rapid revenue growth in the past three years. Total revenue of ClouDr reached RMB524mn/ RMB839mn/ RMB1,757mn/ RMB1,380mn in 2019/ 2020/ 2021/ 1H22, representing YoY growth of 110%/ 60%/ 109%/ 95%. In addition, ClouDr managed to gradually improve its gross margin thanks to its successful execution of monetization strategy. Gross margin of the Company was 11.7%/ 27.7%/ 32.4%/ 28.0% in 2019/ 2020/ 2021/ 1H22.

Figure 7:Revenue of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Figure 8:Gross margin of ClouDr, 2018-1H22



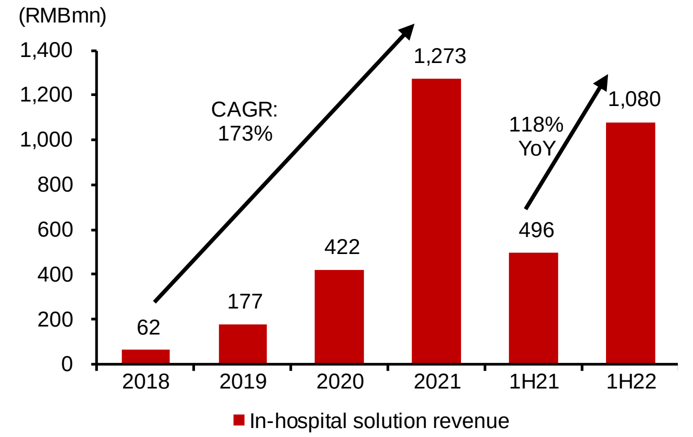
Source: Company data, CMBIGM

Strong business resilience during the COVID-19 pandemic

The outbreak of COVID-19 has resulted in temporary disruptions to ClouDr's business operations in 1H20 as installments of hospital SaaS were largely affected, which negatively impacted its financial performance during the period. To overcome the negative impact during the pandemic, the Company continued to work virtually through telecommunication arrangements, and conducted virtual visits and meetings with its customers to maintain good business relationships. As the COVID-19 control measures were gradually lifted since 2H20, ClouDr's business, particularly its in-hospital solution, recovered quickly and maintained strong momentum in 2021 and 1H22.

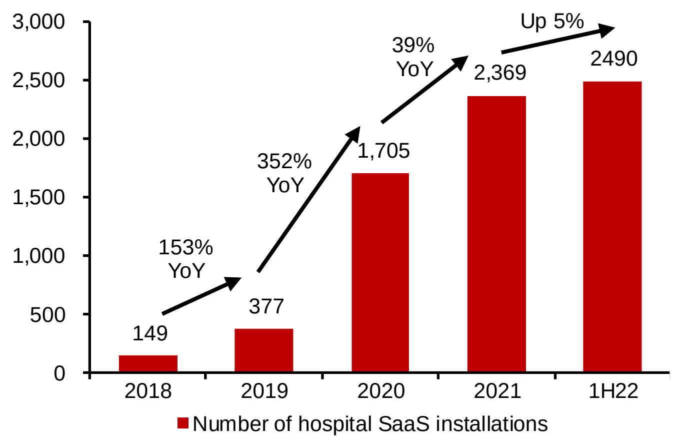
Revenue of ClouDr increased by 109% YoY and 95% YoY in 2021 and 1H22, respectively. Specifically, revenue of in-hospital solution delivered YoY growth of 201% and 118% in 2021 and 1H22, respectively, significantly outpacing the overall growth of the Company. Since the COVID-19 outbreak, the number of hospitals that installed its hospital SaaS increased from 377 as of 2019, to 1,705 as of 2020, to 2,369 as of 2021, and further to 2,490 as of Jun 2022. The pandemic raised hospitals' awareness and patients' acceptance of healthcare digitalization and we think the Company is well positioned to capitalize in the long term given its leading position in the digitalization transformation of the industry.

Figure 9: In-hospital solution revenue of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Figure 10: Number of installation of hospital SaaS, 2018-1H22



Source: Company data, CMBIGM

Strong competitive strengths

Pioneer and market leader

ClouDr is a pioneer in digitalizing chronic condition management in China. Launched in 2016, ClouDr. Yihui is the first hospital SaaS to digitalize and standardize the chronic condition management process for hospitals in China, and ClouDr is the only industry player whose self-developed AIoT devices that can connect to China's NMPA (National Medical Products Administration) certified medical devices used in hospitals, according to F&S.

ClouDr is China's largest digital chronic condition management solution provider in terms of numbers of SaaS installations in hospitals and pharmacies in China (as of 31 December 2021), and number of online prescriptions issued through its platform in 2021, according to F&S. The Company's SaaS products are installed in 2,490 hospitals and over 185,731 pharmacy stores as of Jun 2022. In addition, ClouDr had over 95,000 registered doctors and 26.5mn registered users on its platform as of Jun 2022.

Innovative business model

Hospital-first strategy. In order to capture the existing in-hospital chronic condition management market and extend such market to out-of-hospital scenarios, ClouDr has adopted a "hospital-first" strategy to provide an improved chronic condition management experience for patients. As of 2021, ClouDr. Yihui was installed in approximately 640 Class III public hospitals (21.4% of total) and approximately 1,036 Class II public hospitals (10.0% of total) in China. As ClouDr. Yihui allows hospitals to operate across departments, the Company can quickly penetrate into different departments in a hospital. More importantly, as ClouDr deepens its collaboration with hospitals, its in-hospital solution becomes an integral and essential part of daily routine in hospitals, typically with high costs for hospitals to switch to other solutions.

From hospitals to other key stakeholders. With a vision to cover the entire patient journey both in and out of hospitals, ClouDr has extended its services to cover all major participants in the chronic condition management value chain. Leveraging its success in serving hospitals, the Company has expanded its solutions to pharmacies. As more hospitals and pharmacies adopt its solutions, more doctors and pharmacists shift to its services, and in turn more patients and other individual users select its platform. ClouDr can utilize its network to offer pharmaceutical companies with digital marketing services.

Efficient omni-channel user acquisition. ClouDr has a strong ability to acquire individual users from diverse channels. In 3Q21, approximately 1.2mn, or 95% of the Company's newly registered users are derived from organic traffic, such as in-pharmacy online consultations and prescriptions, in-hospital referrals and patient referrals. Compared with user acquisition through mass marketing, ClouDr's hospital-first approach allows the Company to establish trust with individual users with precise needs, leading to higher acquisition efficiency.

Valuable doctor-patient relationships in and out of hospitals

Valuable relationships. Individual users can register, get consultation and prescriptions, and complete medicine purchases on ClouDr's platform. Interactions generated on its individual chronic condition management solution are based on demand for medical services, allowing the Company to better understand these users and provide targeted services to doctors and their patients. Chronic condition patients require recurring consultation and prescriptions, leading to high patient lifetime value. With these in-depth relationships, ClouDr is well positioned to expand into deeper industry participation and broader product offerings.

Expansion from in-hospital to out-of-hospital. Chronic condition management is a complex process, with long-term, regular follow-up visits and frequent interactions between patients and medical service providers (including doctors, hospitals and pharmacies). Through ClouDr's hospital network, doctors can refer in-hospital chronic condition patients to ClouDr's individual chronic condition management platform and continue their relationship, fostering these relationships in out-of-hospital scenarios.

Strong product capabilities

Technologies and medical know-how. ClouDr's technology capabilities deliver a standardized and convenient experience to key healthcare stakeholders, across in- and out-of-hospital settings. With modularized implementation, hospitals can customize the functionalities of ClouDr's application according to their needs. The Company has developed a suite of proprietary AIoT devices and associated software that can connect most of the mainstream in-hospital chronic condition medical devices. According to F&S, ClouDr is the only industry player whose AIoT devices can connect to medical devices certified by China's NMPA. The Company also accumulates a large medical knowledge library (containing 2mn medical papers, over 110,000 clinical guidance articles, and various other sources of medical knowledge), which is foundational to its online consultation and prescription services. Such library helps match patient profiles with corresponding departments and doctors, ensuring accuracy during consultation and prescription process.

Proven effectiveness. ClouDr has successfully delivered proven clinical performance. According to a clinical study conducted by Shanghai Dongfang Hospital and published in Journal of Diabetes Investigation, patient treatment and management plans developed by ClouDr have demonstrated considerable improvement in various indicators, including days needed for same level of improvement, compared with products developed by certain leading diabetes management companies in the US. Starting from 2020, the Company has collaborated with the Chinese Center for Disease Control and Prevention to provide technological support in the establishment of a nationwide chronic condition big data pilot program that aims to standardize the management of chronic condition data, by leveraging the Company's rich experience in digital chronic condition management.

Visionary management team

ClouDr has a visionary senior management team with in-depth and complementary experience in technology and healthcare sectors. Mr. Kuang founded the Group in 2014, with the mission of bringing better chronic condition management experience to every family in China. Mr. Kuang has over 15 years of experience in healthcare and technology industries. Previously, he served as a Senior Strategic Marketing Manager in APAC at Johnson & Johnson and various technical roles for APAC Business Development at Intel China. Mr. Kuang's unique background, overseas experience and deep know-how of the complex digital healthcare industry allowed him to quickly identify market opportunities, set the right company-wide strategy, and bring teams to the right path of execution. Under the lead of Mr. Kuang, ClouDr management team reacts quickly to address industry pain points and develop technology-enabled solutions. Their wealth of experience in running critical functions within renowned multi-national companies and proven execution capability is highly valuable for the long term growth of ClouDr.

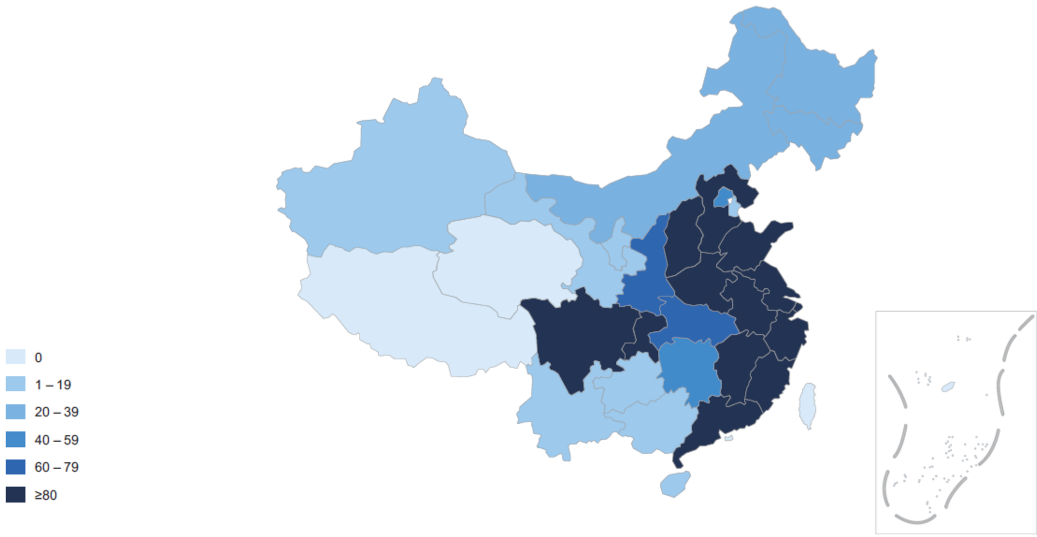
Scalable business models to create strong competency

ClouDr operates a digital chronic condition management business for all major participants in chronic condition management, offering comprehensive products and solutions to hospitals, medical professionals, pharmacies, pharmaceutical companies and individual users, which correspond to three business solutions, namely in-hospital solution, pharmacy solution and individual chronic condition management solution for individual users.

In-hospital solution

ClouDr's in-hospital solutions mainly consist of hospital supplies, hospital SaaS, and digital marketing services for pharmaceutical companies. 2,369 and 2,490 hospitals had installed ClouDr's hospital SaaS as of Dec 2021 and Jun 2022, respectively. The following map illustrates the geographic coverage of hospitals that installed its hospital SaaS as of 2021.

Figure 11: Geographic coverage of hospitals that installed its hospital SaaS



Source: Company data, CMBIGM

The "AIM" model

ClouDr grows its in-hospital solution business through its "AIM - Access, Install, Monetize" model, which outlines the Company's concurrent efforts to access hospital channel and establish business relationships, install its hospital SaaS to increase stickiness of hospitals, and seek monetization opportunities through its in-hospital solution.

(1) Access. ClouDr accesses a large number of hospitals in China with the intention of having these hospitals use its in-hospital SaaS. Leveraging its understanding and expertise in chronic condition management, the Company mainly relies on its in-house and outsourced business development teams, many of whom have medical backgrounds, to establish and maintain these relationships.

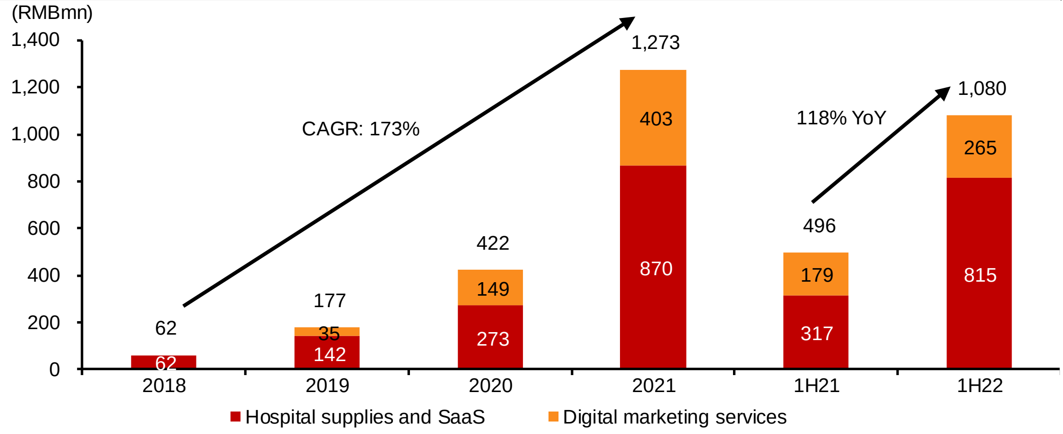
(2) Install. The installation of ClouDr's hospital SaaS helps it build sticky relationships with hospitals. As some of the medical devices that ClouDr provides can connect to its hospital SaaS through its proprietary AIoT devices, we believe the installation of hospital SaaS encourages hospitals to purchase medical devices and consumables from it. Furthermore, ClouDr hospital SaaS capabilities are part of the reasons some of its suppliers choose the

Company as the exclusive distributor for products that are related to chronic condition management.

(3) Monetize. ClouDr actively seeks opportunities to monetize the relationships with hospitals. Depending on the circumstances and its assessment of the hospitals' digital environment, the Company may choose to prioritize hospital supplies, promote its hospital SaaS, or leverage this relationship to provide digital marketing services for pharmaceutical companies.

ClouDr has adopted **a hospital-first strategy** to capture the in-hospital chronic condition management market and extend such market to out-of-hospital scenarios. As a result, its in-hospital solution delivered the highest growth speed among all three solutions. Revenue from in-hospital solution increased to RMB1,273mn in 2021 at a CAGR of 173% over 2018-2021 and further increased by 118% YoY in 1H22.

Figure 12: Breakdown of in-hospital solution revenue of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Hospital supplies

Through its close collaborative relationships with hospitals, ClouDr is able to gain deep knowledge of the different procurement needs of hospitals in different classes, sizes and locations. At the same time, ClouDr has access to an extensive supply of high-quality medical devices, consumables and pharmaceuticals at competitive prices, via its partnerships with a large number of pharmaceutical and medical device companies. By matching hospitals' needs with pharmaceutical companies and other upstream suppliers, ClouDr can provide hospitals with an expansive offering of medical products as part of its in-hospital solution.

The products that ClouDr provides primarily include medical devices and consumables (such as blood glucose meters, glucose testing strips and vital sign monitors) and pharmaceuticals (both OTC and prescriptions drugs).

ClouDr is the exclusive distributor in some regions for some of the medical devices and consumables that it sells. We think that suppliers of these products are willing to choose it as their exclusive distributor in part attributable to its hospital SaaS capabilities.

For ClouDr's sales of medical devices, consumables and pharmaceuticals, the Company directly sells to its distributors or hospitals from its inventory. The Company manages its inventories and adjusts inventory level based on fluctuation in supply, demand and prices, and, for some of its inventory, seasonality, product popularity and shelf life. ClouDr also utilizes warehousing services from third parties for some of its inventory and for the remainder rent its own warehouses. The Company uses third party fulfillment services to deliver goods to its customers, including distributors and hospitals.

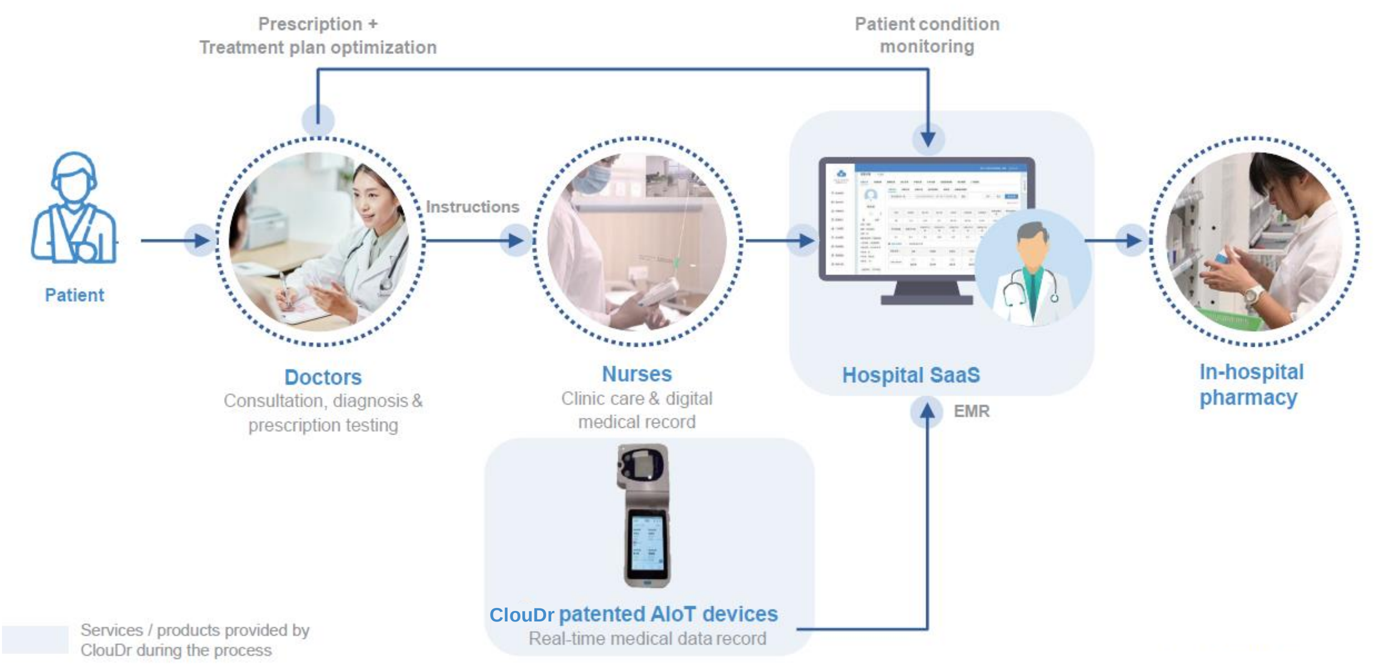
Hospital SaaS

ClouDr. Yihui, ClouDr's hospital SaaS, is designed to digitalize chronic condition management to improve hospitals' operational efficiency and treatment effectiveness. It facilitates hospitals in creating and maintaining EMR (electronic medical records) for their chronic condition patients and can connect to in-hospital medical AIoT equipment. As of 2021, ClouDr. Yihui was installed in approximately 640 Class III public hospitals (21.4% of total) and approximately 1,036 Class II public hospitals (10.0% of total) in China.

ClouDr. Yihui empowers hospitals, doctors and nurses in automating and optimizing their workflow, significantly improving the efficiency and accuracy of their assessment and management of chronic conditions. Since ClouDr. Yihui acts as a "plug-in" or extension of existing HIS (hospital information system) and LIS (laboratory information systems), it can work seamlessly with hospitals' current systems without the need of revamping. In 2020, it took an average of 2.8 days to deploy ClouDr. Yihui on a hospital's existing HIS/LIS, which can be done without disrupting the hospital's daily operations.

ClouDr has adopted a subscription fee model for its hospital SaaS service. The Company primarily sells rights to use its SaaS to distributors of its hospital end-customers or directly to certain hospitals. These distributors then sell the rights to hospital end customers. However, according to industry norm, the Company has often offered its hospital SaaS for free or at discounted prices to encourage the installation of hospital SaaS, and used revenue from sales of hospital supplies as a way to compensate for the subscription fees.

Figure 13: Role played by ClouDr's hospital SaaS



Source: Company data, CMBIGM

Figure 14: Major functions of ClouDr's hospital SaaS

Function	Details
Consultation and prescription	Doctors can use ClouDr. Yihui to input consultation results and diagnosis of patients, order tests, prescribe drugs and instruct nurses to conduct follow-up tests
Automated health record input	ClouDr. Yihui connects in-hospital medical devices with HIS and LIS, and automatically collects and transmits outputs of the medical devices to the hospital's database
EMR establishment and intelligent health condition tracking	ClouDr. Yihui helps hospitals establish and manage EMRs which doctors and nurses can easily access
Health analysis	Relying on advanced analytics and AI capabilities, ClouDr. Yihui can use data saved locally in hospitals to analyze a patient's health conditions and medical results and present visualized results
Medical AIoT integration	A suite of proprietary AIoT devices that connects to most of the mainstream chronic condition medical devices and collects and standardizes patient records in a confidential manner
Supply and billing management	Doctors and nurses can access digitalized record of the usage and stock of consumables in hospitals to help them efficiently manage medical supplies.
Multi-department collaboration	ClouDr. Yihui allows sharing, collaboration and patient transfers across different departments in hospitals to coordinate treatment and develop treatment plans for patients
Collaboration across hospitals	Medical records of consenting patients can be shared with other hospitals through the ClouDr. Yihui system to facilitate collaborative treatment and patient transfer among hospitals

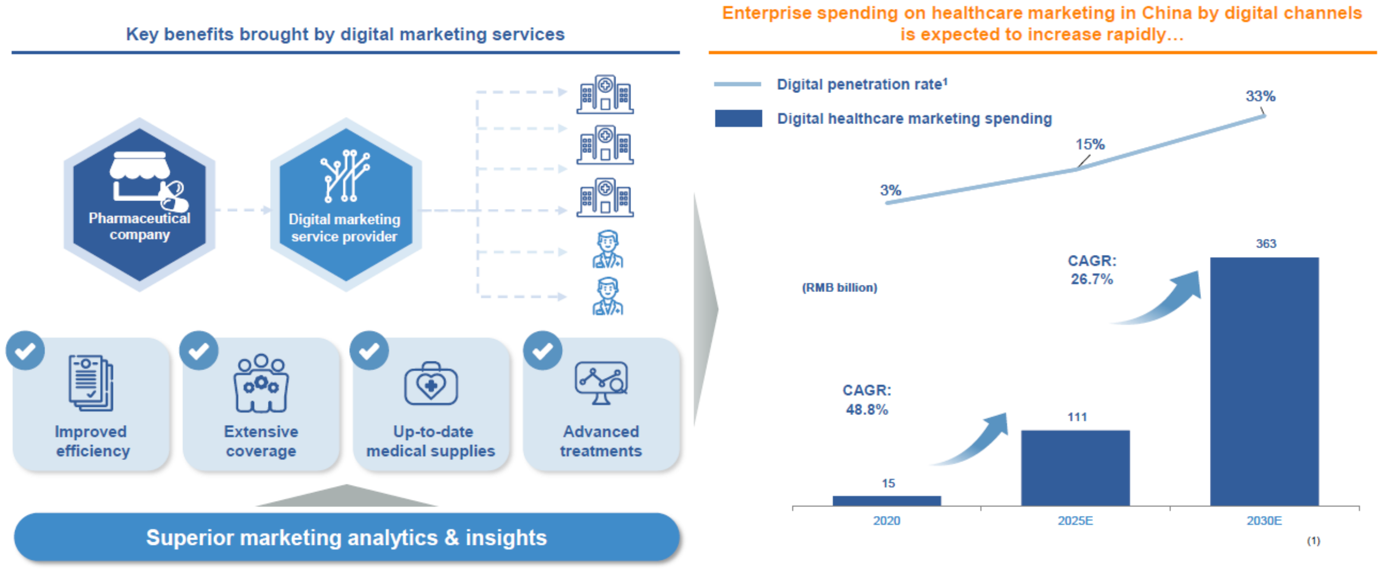
Source: Company data, CMBIGM

Digital marketing services for pharmaceutical companies

Leveraging its strong network of hospitals and doctors, ClouDr provides precise digital marketing services to pharmaceutical companies. ClouDr had collaborated with 5/ 13/ 15/ 23 pharmaceutical companies to provide digital marketing services for 6/ 16/ 22/ 29 SKUs of medicines in 2019/ 2020/ 2021/ 1H22. Based on the insights and expertise distilled from its interactions with hospitals, ClouDr has accumulated deep know-how of how to raise awareness of certain medicines among hospitals and doctors.

ClouDr's digital marketing services include an array of seamlessly integrated promotional methods, many of which are powered by its platforms. The Company's digital marketing service starts with market research and insight collection for the specific SKUs that it provides digital marketing services for, which gives ClouDr and its customers insights on the medicines and helps the Company better understand and develop marketing strategies. After collecting insights and analyzing the specific product, ClouDr then conducts its digital marketing services both online and offline.

Figure 15: ClouDr's monetization strategy of digital market services



Source: Company data, CMBIGM

ClouDr's SaaS network is a critical part in its digital marketing services. Through its hospital SaaS, ClouDr is able to promote medicines of its pharmaceutical company customers in a variety of innovative ways. For example, ClouDr is able to increase exposure for certain medicines through its hospital SaaS by placing the specific medicines on the top of the list for doctors to choose from and prescribe. Through its doctor app, the Company can display and promote brand awareness for its pharmaceutical customers as well as recommending medicines to doctors on its doctor app when they issue prescriptions. Leveraging its understanding of China's chronic condition market, ClouDr is able to accurately deliver customized content sponsored by pharmaceutical and medical device companies to specific groups of physicians in a cost-efficient way.

ClouDr owns a professional marketing team to penetrate into new market. Many of ClouDr's business development team members have medical backgrounds and can provide the latest information on medicines and other medical products for chronic conditions and answer questions that doctors may have. ClouDr has earned trust from hospitals that it has relationships with. As part of its digital marketing services and in order to maintain close relationships with its hospital network, ClouDr's business development teams regularly host online and offline academic events, industry conferences, forums and seminars, to deepen and strengthen its hospital and doctor network and raise awareness among doctors for its pharmaceutical company customers.

ClouDr gains revenue from digital marketing services on a performance basis. The Company usually enters into exclusive contracts with pharmaceutical companies to conduct digital marketing services for them in a specific region for a specific SKU. ClouDr receives a portion of the revenues its pharmaceutical company clients generate from the specific SKU and region for which it provides them digital market services.

Thanks to its expanding hospital network, ClouDr has seen a good progress in its digital marketing service business. Among its Top 5 clients in terms of revenue generation, clients purchasing ClouDr digital marketing services combined accounted for 10.0% of ClouDr's total revenue in 2021 and 9.7% in 2020 (no such clients ranked in Top 5 in 2019) and the absolute revenue from digital marketing services among Top 5 customers for 2021 was 117% higher than that for 2020, demonstrating the big potential of ClouDr's SaaS-based hospital network. In addition, the relatively high-margin digital marketing services can substantially improve the Company's overall gross margin.

Figure 16: Top 5 clients in terms of revenue generation

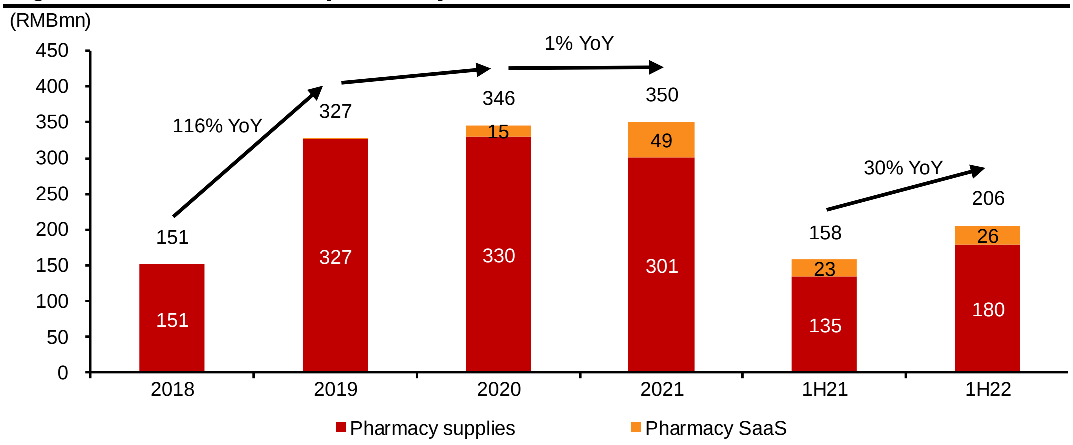
Customer	Principle business of customer	Solution category	Product/service sold	2019	2020	2021
A	Daily necessities, technologies, and medical supplies	Pharmacy	Medical devices and consumables	13.7%		
B	One of the leading pharmaceutical companies in China	In-hospital, Pharmacy	Pharmaceuticals, medical devices and consumables,	7.6%	5.0%	
C	Online pharmaceutical selling and marketing	Pharmacy	Medical devices and consumables	3.6%		
D	Medical devices for monitoring, diagnosis and treatment	Pharmacy	Medical devices and consumables	3.3%		
E	Pharmaceutical research and logistic operation	In-hospital, Pharmacy	Pharmaceuticals products	2.6%		
F	Medicines	In-hospital, Pharmacy	Pharmaceuticals and medical devices		5.9%	
G	Medical devices and consumables	In-hospital, Pharmacy	Pharmaceuticals		5.9%	
H	**Medicines**	**In-hospital**	**Digital marketing**		**5.3%**	
I	**Medicines**	**In-hospital**	**Digital marketing**		**4.4%**	**3.5%**
J	Medical devices and consumables	In-hospital	Medical devices			8.3%
K	**Manufacture, marketing and sales of certain medical products**	**In-hospital**	**Digital marketing**			**6.5%**
L	Marketing and sales of certain medical products	In-hospital	Medical devices and consumables			6.1%
M	Marketing and sales of certain medical products	In-hospital	Medical devices and consumables			5.7%

Source: Company data, CMBIGM

Pharmacy solution

ClouDr's pharmacy solution consists of pharmacy supplies and pharmacy SaaS. Revenue from pharmacy solution booked flat growth of 1% YoY in 2021 and 6% YoY growth in 2020, following 116% YoY growth in 2019. Revenue growth of pharmacy solution rebounded 30% in 1H22, driven by the 33% YoY revenue growth from pharmacy supplies. Pharmacy solution, fully expandable to related value-added areas, will still act as an integral part within ClouDr's business mix in long run.

Figure 17: Breakdown of pharmacy solution revenue of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Pharmacy supplies

Leveraging its understanding of the healthcare industry in China, its relationships with pharmaceutical companies and its access to upstream suppliers, ClouDr provides pharmacies with medical devices, consumables, pharmaceuticals and miscellaneous, primarily related to chronic condition management.

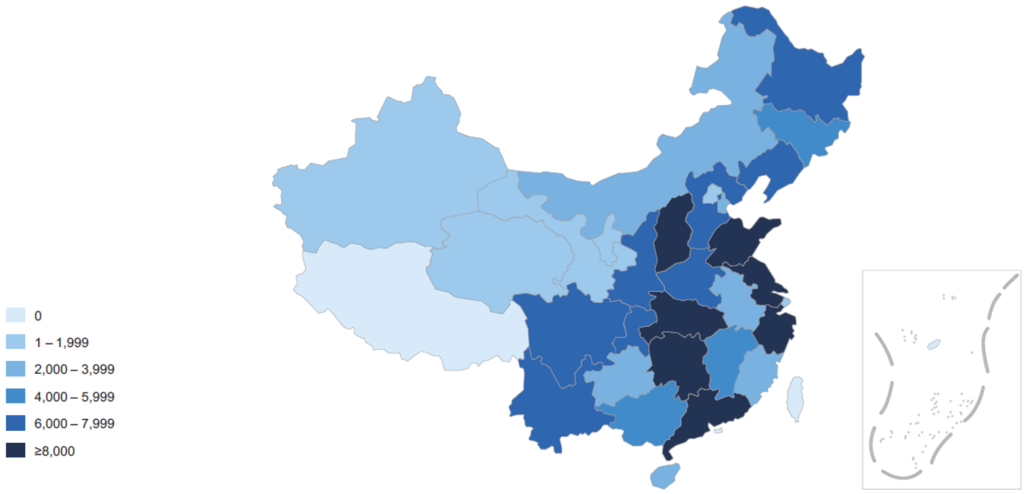
ClouDr in general offers more expansive SKUs to pharmacies as they have broader needs. For example, in addition to OTC and prescription drugs, ClouDr also provides supplements and health food products, as well as miscellaneous items that its pharmacy end customers carry in their stores, such as certain food and everyday items.

ClouDr directly sells from its inventory to its distributors or pharmacies. The Company manages its inventories and adjusts inventory level based on fluctuation in supply and prices, and, for some of its inventory, seasonality, product popularity and shelf life. The Company also utilizes warehousing services from third parties for some of its inventory and for the remainder rent its own warehouses. ClouDr uses third party fulfillment services to deliver goods to its customers, including distributors and pharmacies.

Pharmacy SaaS

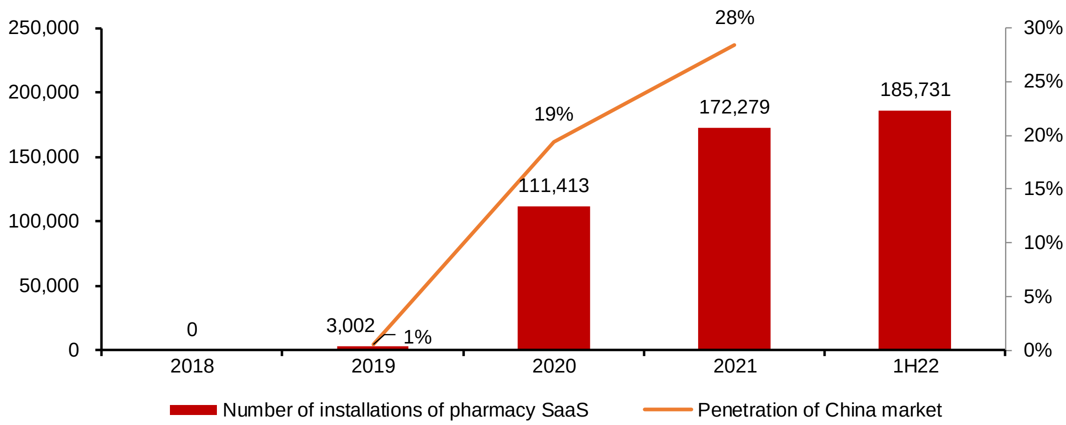
ClouDr launched *ClouDr. Pharmacy*, its pharmacy SaaS, in the second half of 2019, which can facilitate in-pharmacy prescription issuance for walk-in patients and help pharmacies manage their inventories and set up online pharmacies through Weixin mini-programs. 172,279 and 185,731 pharmacies had installed *ClouDr. Pharmacy* as of Dec 2021 and Jun 2022, respectively. The following map illustrates the geographic coverage of pharmacies that installed ClouDr's pharmacy SaaS as of 2021.

Figure 18: Geographic coverage of pharmacies that installed ClouDr's pharmacy SaaS



Source: Company data, CMBIGM

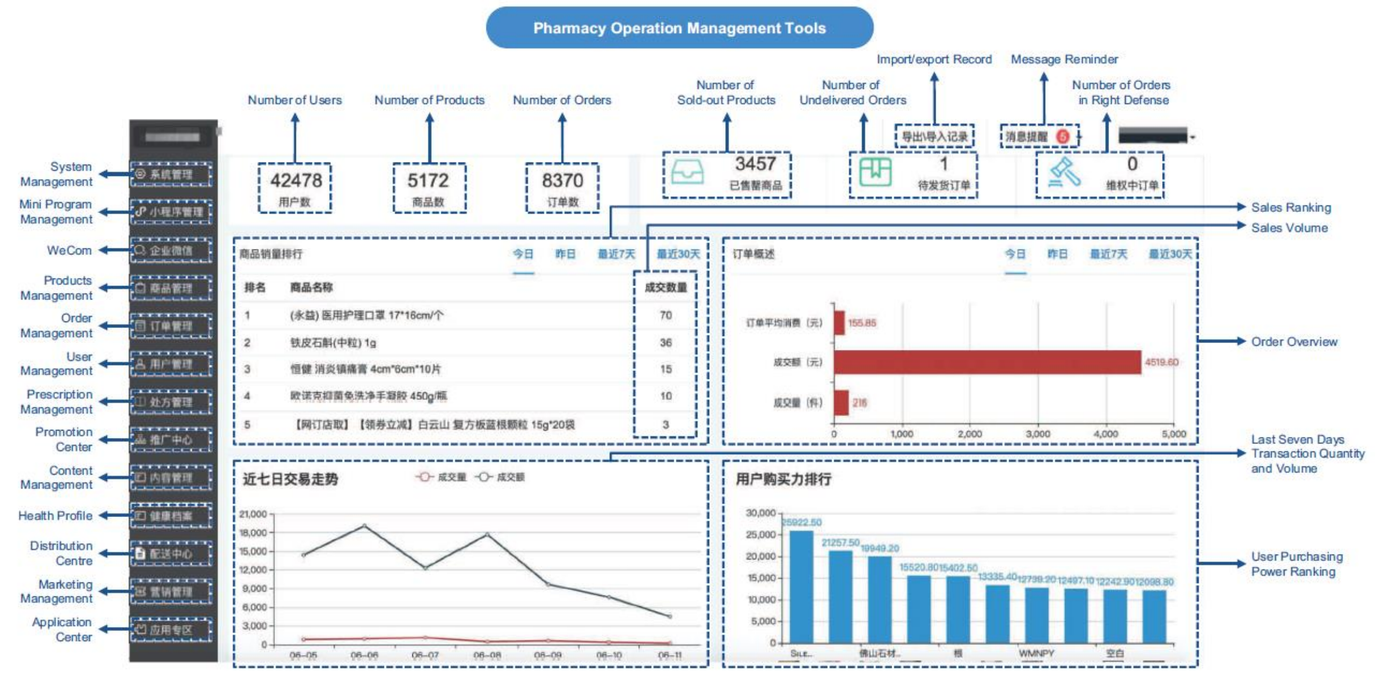
Figure 19: Installation of pharmacy SaaS of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Note: For the purpose of illustration, calculation of ClouDr's penetration of China pharmacy market is based on number of pharmacies reported in 药品监督管理统计年度报告 by NMPA

Figure 20: Interface of ClouDr's pharmacy SaaS



Source: Company data, CMBIGM

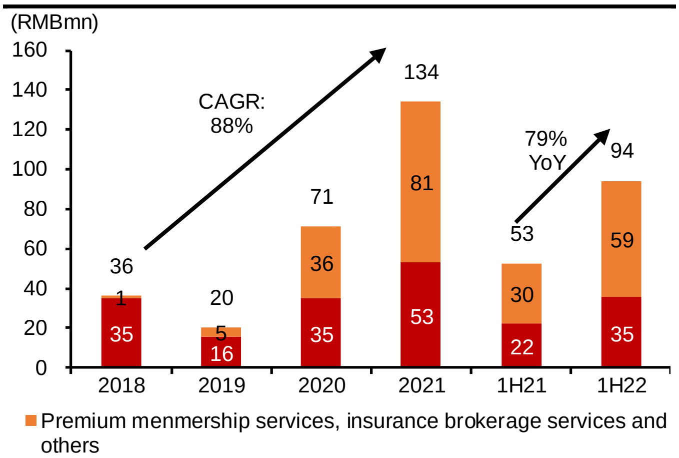
Main functions of ClouDr Pharmacy include in-pharmacy consultation and prescription service, new retail (setting up an online pharmacy via Weixin mini programs) and inventory management.

ClouDr generates revenue from subscription fees for pharmacies using ClouDr. Pharmacy on a per-outlet annual basis. The Company currently offers some of its pharmacy SaaS customers a one-year free trial, after which they will need to pay the standard subscription fee. The Company charges each pharmacy that uses its new retail service an extra subscription fee. In addition, ClouDr generates revenue from sales of medical devices, consumables, pharmaceuticals and miscellaneous to pharmacies through distributors and direct sales. The Company can also charge pharmacies new retail service commissions based on percentages of revenue generated from selling medicines.

Individual chronic condition management solution

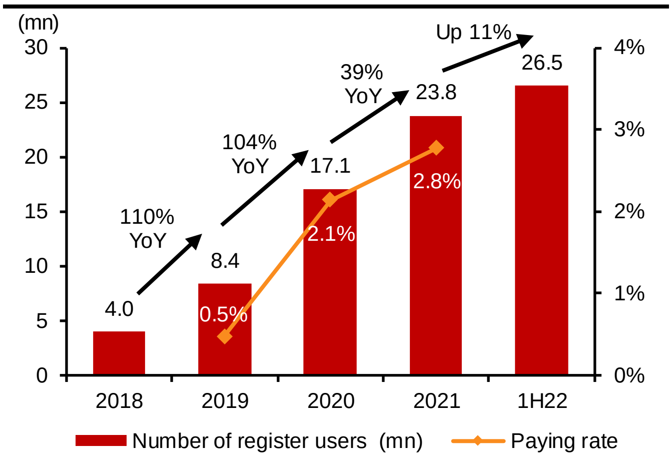
ClouDr. Health is the Company's individual chronic condition management ("the individual solution") platform on which users can receive instant, professional care for chronic conditions and other health management services at any time and from anywhere. Revenue of the individual solution increased at an 88% CAGR in 2018-21 and further grew by 79% YoY in 2021. ClouDr. Health had about 23.8mn registered users (up by 39% YoY) as of 2021, which further grew to 26.5mn as of Jun 2022. Paying rate improved to 2.8% in 2021 from 0.5% in 2019.

Figure 21: Breakdown of individual solution revenue of ClouDr, 2018-1H22



Source: Company data, CMBIGM

Figure 22: Number of individual users and paying rate of ClouDr, 2018-1H22

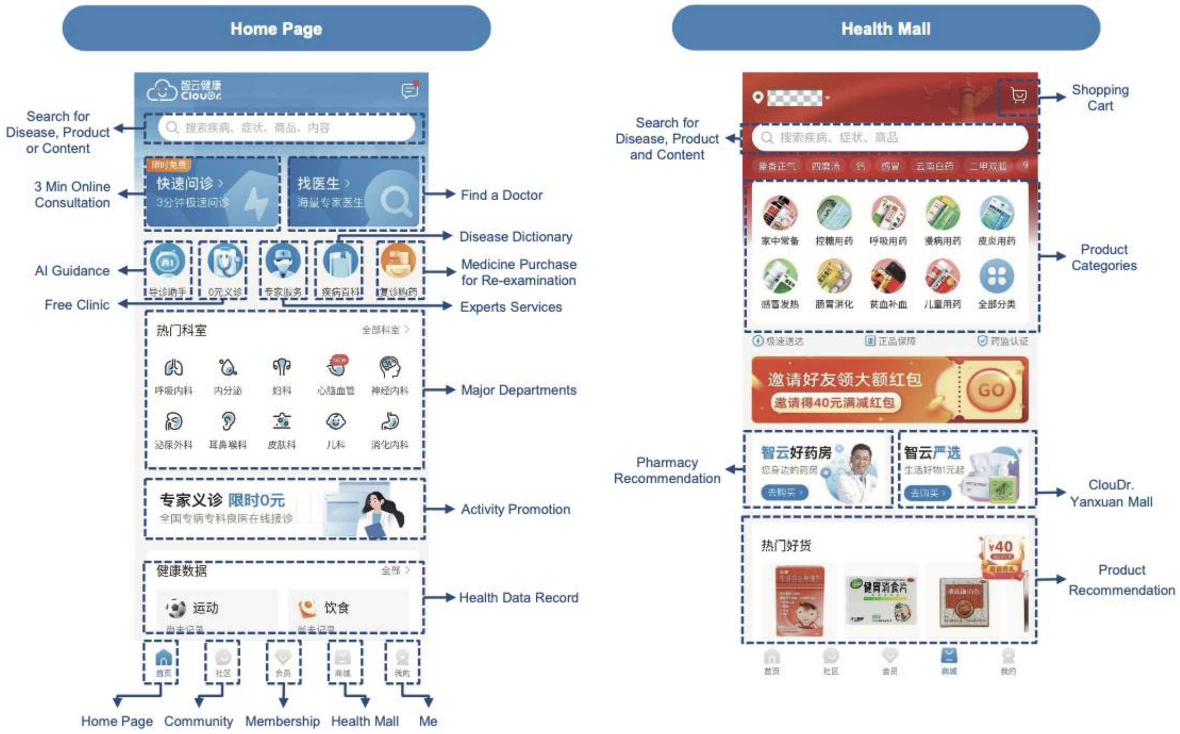


Source: Company data, CMBIGM

"Anytime, anywhere" health management

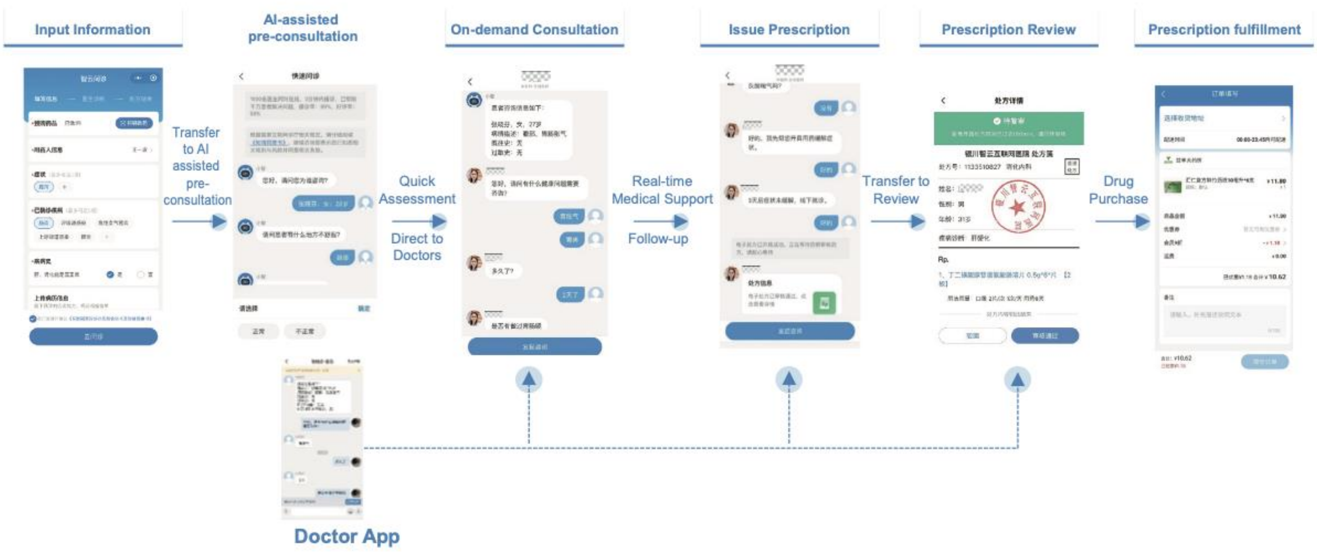
ClouDr has developed a mobile-first care system where users receive convenient and intelligent care for chronic conditions and other health management services. Its mobile system consists of its main mobile application, mini programs and a Weixin public account.

Figure 23: Mobile application for individual users



Source: Company data, CMBIGM

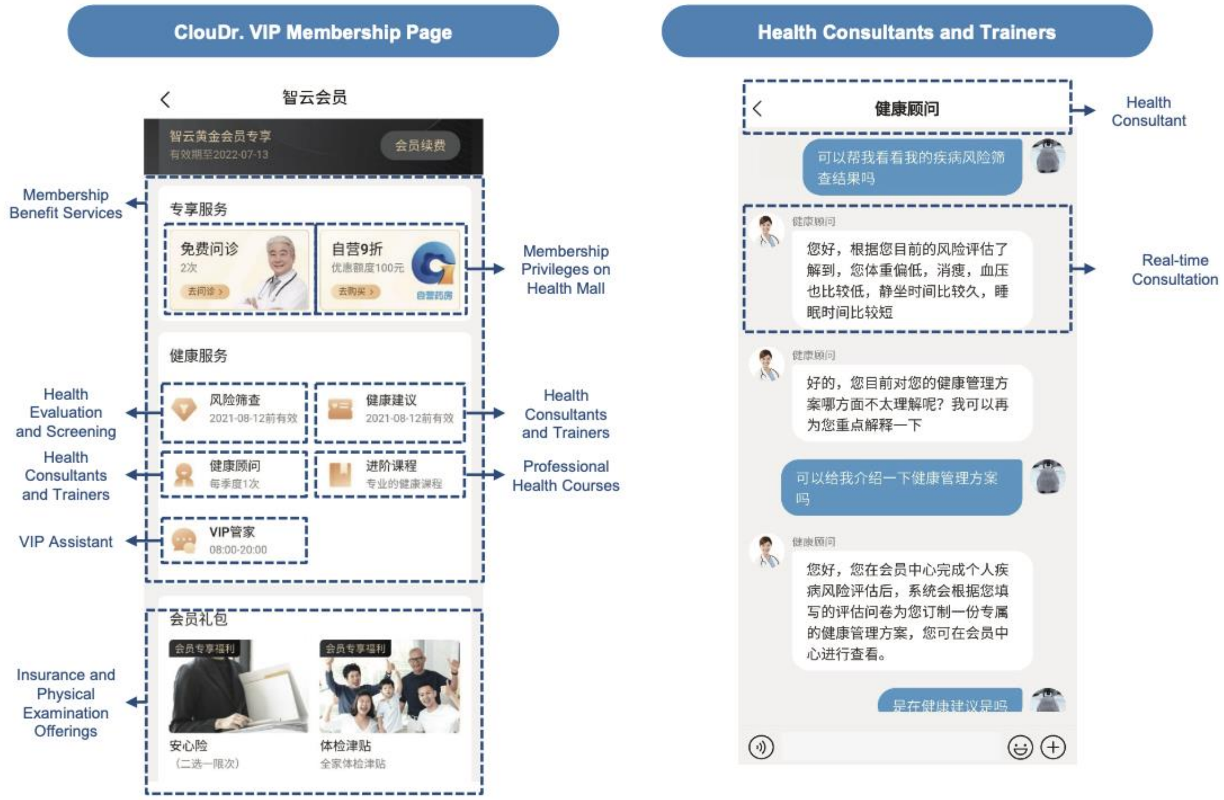
Figure 24: The process of a patient's journey of receiving consultation and prescriptions



Source: Company data, CMBIGM

ClouDr. Health provides various services that are integral to patients' daily management of chronic conditions, including (1) 24/7 tracking and monitoring and personalized health management services; (2) efficient, professional online consultations, and (3) online prescription and ordering services. In addition, the Company offers value-added services for paid members (including not only individual purchasers of its memberships, but also users who become members through the insurance companies and corporate employers that it partners with). These value-added services include (1) health evaluation and screening, (2) engagement with health consultants and trainers, (3) complimentary selected services and physical examination, and (4) membership privileges on Health Mall.

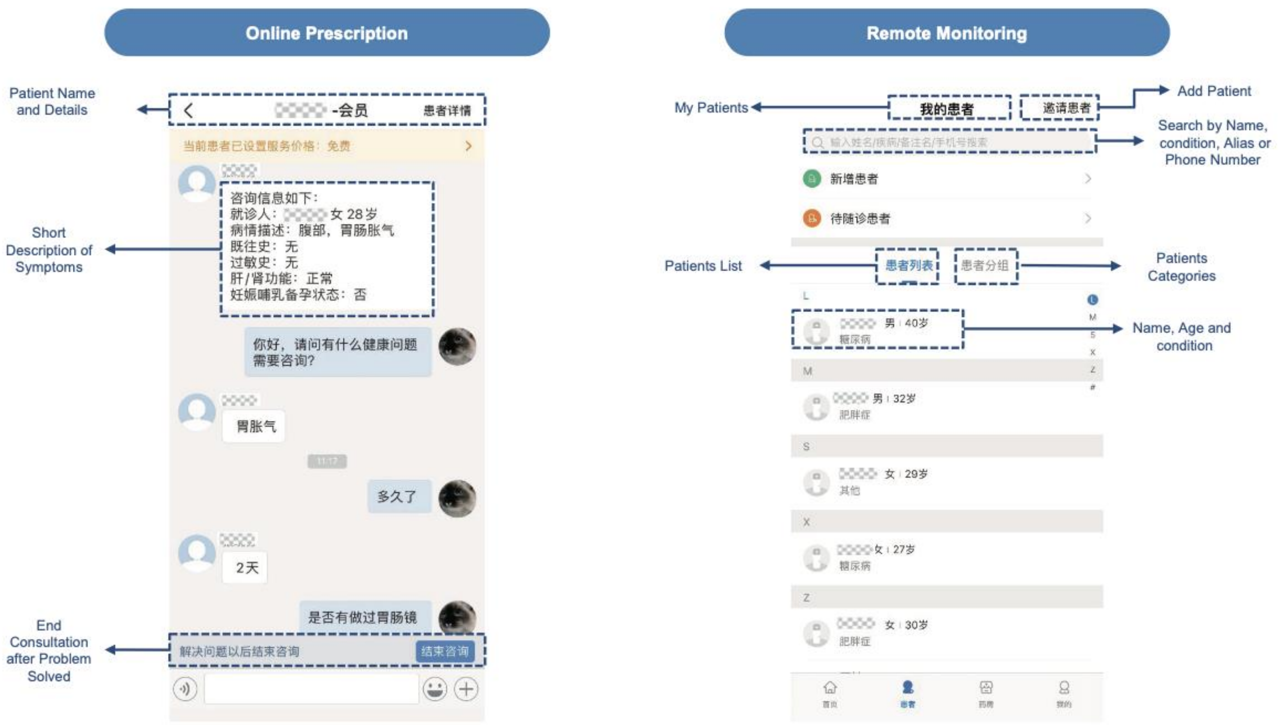
Figure 25: The additional services offered to paid members



Source: Company data, CMBIGM

ClouDr. Doctor is the Company’s mobile app for doctors to access its platform. As of Jun 2022, over 95,000 doctors registered in ClouDr’s platform. Additionally, approximately 153.4mn prescriptions were issued via the Company’s platform in 2021, making the Company the largest online medical services provider in terms of number of prescriptions, according to Frost & Sullivan.

Figure 26: ClouDr. Doctor's user interface



Source: Company data, CMBIGM

ClouDr. Doctor has the following built-in features that facilitate out-of-hospital monitoring and doctor-patient communication:

(1) Easy-to-use consultation, prescription and patient management. Doctors can refer their patients to ClouDr's individual chronic condition management solution after these patients have concluded their hospital visits. Doctors can then engage with their patients via text and photo-based or video-based sessions, answering questions and providing medical advice. Doctors with multi-site registration can also issue prescriptions to these patients.

(2) Monitoring and alerts. When certain conditions (such as a patient's blood sugar level) reach a pre-determined risk threshold, the patient's designated doctor will receive instant alerts and can intervene or reassess prescribed drugs promptly when necessary.

ClouDr does not charge doctors on its platform any fees for using the platform, as the Company views them as important resources to attract a larger user base and deepen the relationships with participants in the healthcare industry. Doctors get paid for their consultation or prescription services on the doctor app either based on the number of hours that they are on-call, or, for renowned doctors, based on the fees they set for their services.

Comparison with peers

Unique business model of ClouDr

In terms of medical service capabilities in hospital scenario, ClouDr is comparable to Yidu (2158 HK, NR) and Winning Health (300253 CH, NR). ClouDr's in-hospital SaaS was installed in over 1,700 hospitals in China, with a specific focus on chronic condition managements. Hospital typically has a high level of stickiness to ClouDr's SaaS due to the significant work-efficiency improvement to daily work of doctors and nurses and high replacement cost (from both financial and time perspective). In comparison, Yidu focuses on providing medical institutions with AI/big data-powered solution to help them conduct research in various therapeutic areas while Winning Health, whose services covered more than 6,000 healthcare institutions, assists hospitals to digitalize in all patient-serving aspects.

For pharmacy-side services, ClouDr leverages its large installation base of pharmacy SaaS to provide supply chain management services for pharmacies and offer online consultation and prescription fulfillment for walk-in customers. ClouDr's major competitors, such as Ping An Good Doctor (1833 HK, BUY), Ali Health (241 HK, NR), JD Health (6618 HK, NR) and We Doctor, also collaborate with offline pharmacies to provide medicine services.

In serving individual users, ClouDr lags behind its major competitors in terms of the number of registered users but leads in terms of number of online prescriptions issued. We attribute the high prescription volume to ClouDr's focus on customers with chronic conditions with higher frequency of drug purchasing.

Figure 27: Comparison of medical services capabilities between ClouDr and its competitors

Source: Company data, CMBIGM.
Note: Data as of Dec 2020 if not specified, number of online effective prescriptions is for 1H21, annual active users for Ali Health is for its FY2021 (Apr 2020 – Mar 2021). User metrics for Ali Health and JD Health are annual active users, and registered users for We Doctor

In digital marketing service area, Medlive (2192 HK, NR) is the closest peer to ClouDr. ClouDr charges customers based on service fee which is a percentage of medicine sales of customers while Medlive monetizes via a cost-per-click model. Customers can achieve high marketing efficiency by using services of ClouDr, due to the precise reaching to doctors by using ClouDr's in-hospital SaaS.

Figure 28: Comparison of digital marketing services between ClouDr and its competitors

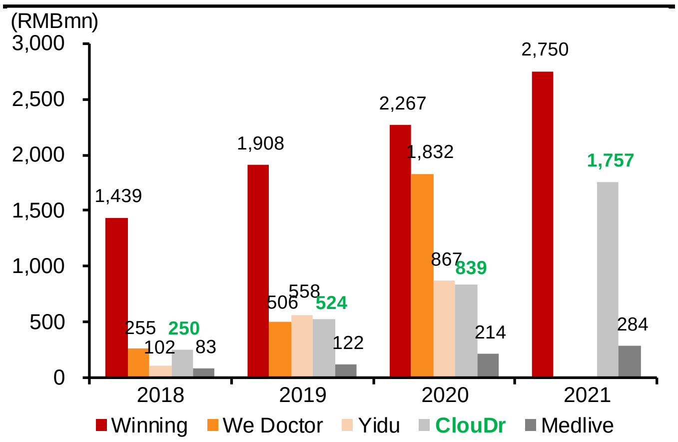
	智云健康 ClouDr	Medlive
Business Model	■ **Performance basis**: service fee is **a percentage of sales revenue** of customers, directly linked to actual sales of SKUs marketed	■ **Cost-per-click basis**: pricing terms are primarily determined on **the number of website/platform click**
Objective	■ Increase brand awareness among hospitals and doctors, and reduce **selling and marketing expenses** for customers ■ Help customers reach more doctors in and out of hospitals and support doctors' clinical decisions	■ Provide substitute for face-to-face representative interactions under traditional medical sales model ■ Deliver **better return on investment for marketing activities**
Customers & SKUs	■ For the 6 months ended June 30, 2021 - **15** pharmaceutical companies - **21** SKUs of **medicines** marketed ■ For the Year Ended December 31, 2021 - **15** pharmaceutical companies - **22** SKUs of **medicines** marketed	■ For the 6 months ended June 30, 2021 - **65** healthcare customers - **144 healthcare products** marketed ■ For the Year Ended December 31, 2021 - **106 healthcare customers** - **242 healthcare products marketed**
Marketing Channels	■ **Online marketing** promotion through hospital SaaS and doctor App ■ **Offline business development team** promotion	■ **Online channels** such as its website and Apps, WeChat mini-programs and official accounts
Key Strength	■ Strong offline hospitals penetration ability and hospitals network ■ Large user base of hospitals and doctors	■ Large online professional physician platform with strong user engagement ■ Vast content library with strong content generation capability
Revenue	■ 2019: **RMB35mm** ***(N.M.)*** ■ 2020: **RMB149mm** ***(YoY 321.4%)*** ■ 2021H1:**RMB179mm** ***(YoY 193.4%)*** ■ 2021:**RMB403mm**[1] ***(YoY 169.7%)***	■ 2019: **RMB111mm** ***(YoY 41.1%)*** ■ 2020: **RMB192mm** ***(YoY 73.0%)*** ■ 2021H1: **RMB117mm** ***(YoY 50.3%)*** ■ 2021: **RMB259mn** ***(YoY 34.9%)***

Source: Company data, CMBIGM

Comparison of financials

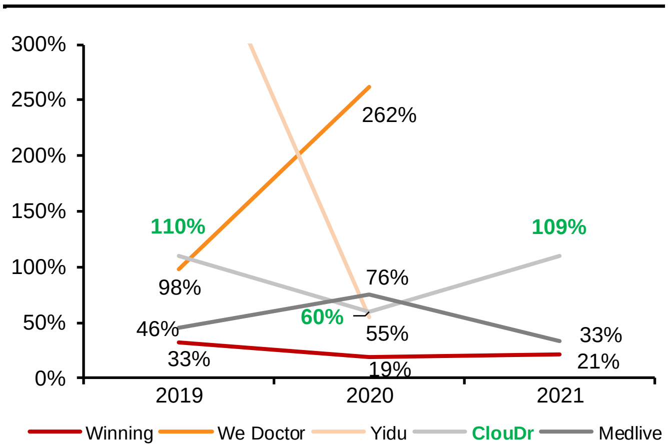
By the nature of services provided, Yidu (2158 HK, NR), Winning Health (300253 CH, NR), Medlive (2192 HK, NR) and We Doctor are comparable peers to ClouDr. Compared with peers, ClouDr has fast revenue growth and rapidly increasing gross margin. Meanwhile, ClouDr operating margin has large room of improvement compared with peers.

Figure 29: Comparison of revenue size, 2018-2021



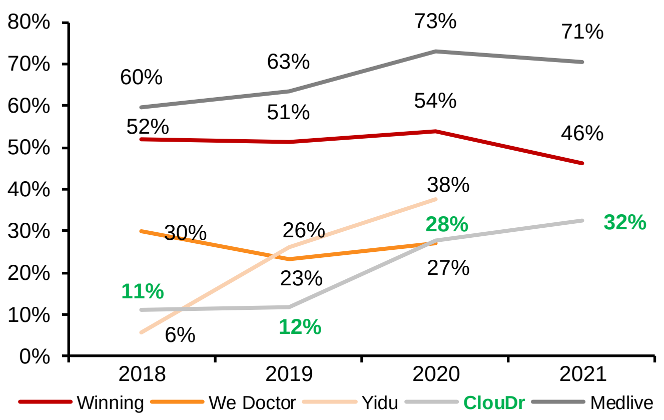
Source: Company data, We Doctor prospectus, CMBIGM
Note: Fiscal year of Yidu ends in March. Annual results ended March 2021 have not been reported.

Figure 30: Comparison of revenue growth, 2019-2021



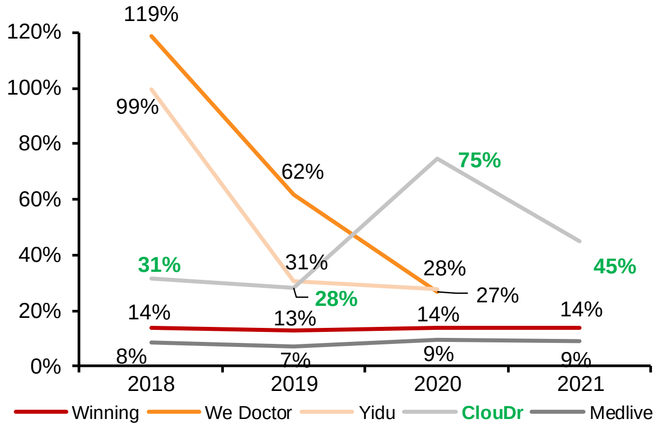
Source: Company data, We Doctor prospectus, CMBIGM

Figure 31: Comparison of gross margin, 2018-2021



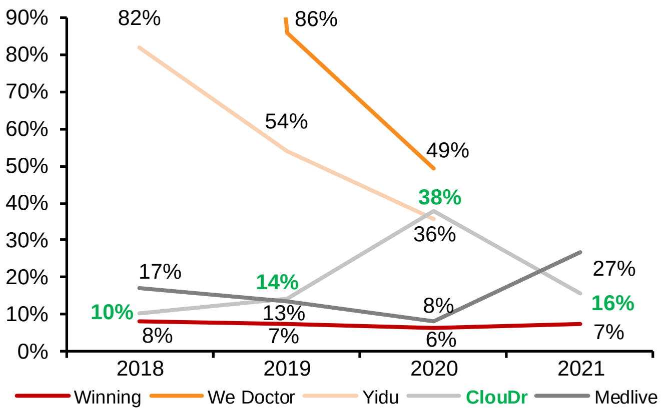
Source: Company data, We Doctor prospectus, CMBIGM

Figure 32: Comparison of selling & marketing expense as % of revenue, 2018-2021



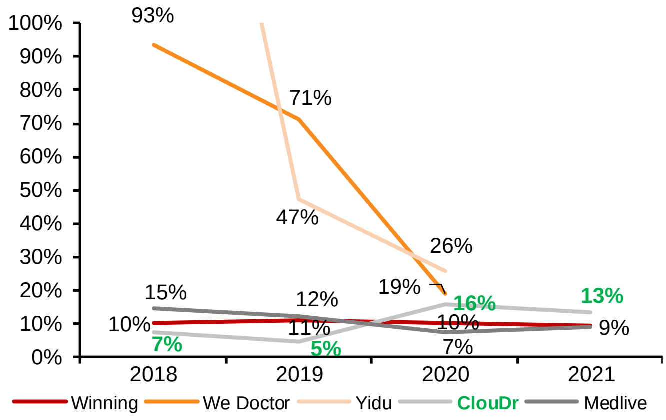
Source: Company data, We Doctor prospectus, CMBIGM

Figure 33: Comparison of admin expense as % of revenue, 2018-2021



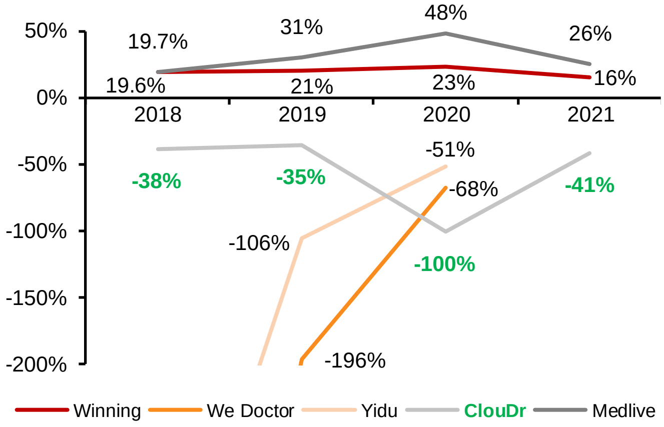
Source: Company data, We Doctor prospectus, CMBIGM

Figure 34: Comparison of R&D expense % of revenue, 2018-2021



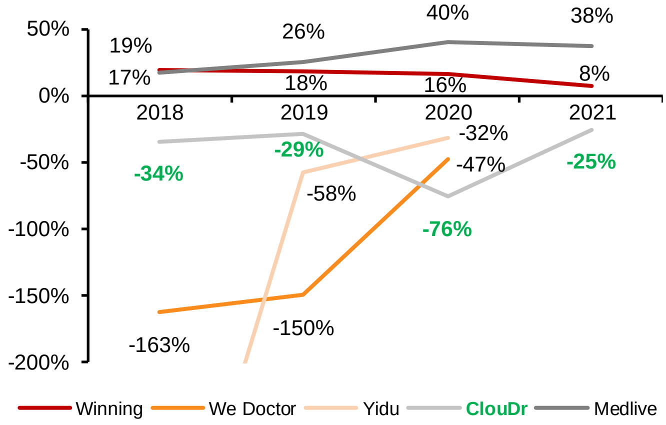
Source: Company data, We Doctor prospectus, CMBIGM

Figure 35: Comparison of operating margin, 2018-2021



Source: Company data, We Doctor prospectus, CMBIGM

Figure 36: Comparison of adjusted net margin, 2018-2021



Source: Company data, We Doctor prospectus, CMBIGM

Note: Refers to China accounting standard adjusted net margin for Winning and non-IFRS adjusted net margin for the rest

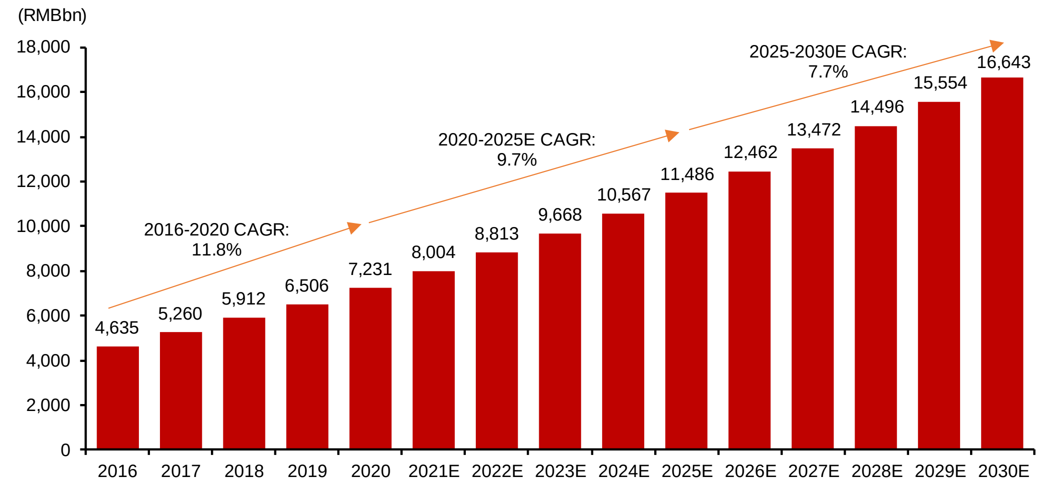
Industry overview

Overview of the healthcare industry in China

China's healthcare expenditure has large room for growth

China is the world's second largest healthcare market with sizable and steadily increasing healthcare expenditure. According to F&S, China recorded total healthcare expenditure of RMB7,231bn in 2020, and it is forecasted to reach RMB11,486.0bn by 2025, representing a CAGR of 9.7% from 2020 to 2025, and further reach RMB16,642.5bn by 2030 based on a CAGR of 7.7%.

Figure 37: Total healthcare expenditure in China(2016-2030E)

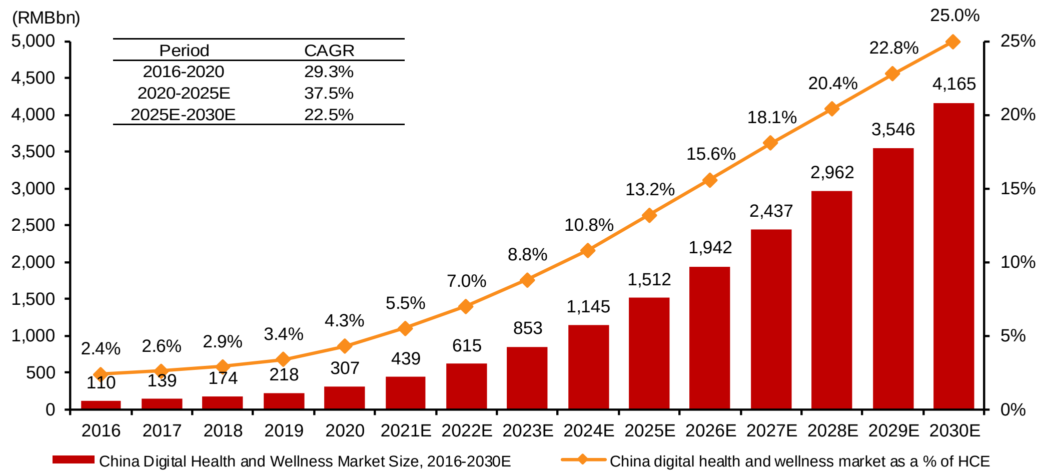


Source: F&S, CMBIGM

With a substantial rise in demand for healthcare, China's healthcare industry is undergoing unprecedented supply-side reforms, which are expected to profoundly influence the industry by promoting the development of out-of-hospital channels and accelerating the digitalization penetration in the industry. Government has introduced multiple policies favorable to "Internet + healthcare" in recent years, propelled by the COVID-19 pandemic to further accelerate the implementation of these policies.

Driven by favorable policies and continuous technology advancement, there are clear trends of accelerating digitalization across different sectors of the healthcare industry, which has led to the fast growth of the digital health and wellness market in China. The size of China's total digital health and wellness market is expected to reach RMB1,511.6bn in 2025, representing a CAGR of 37.5% from 2020 to 2025, and further reach RMB4,165.2bn in 2030, representing a CAGR of 22.5% from 2025 to 2030.

Figure 38: China digital health and wellness market size (2016-2030E)



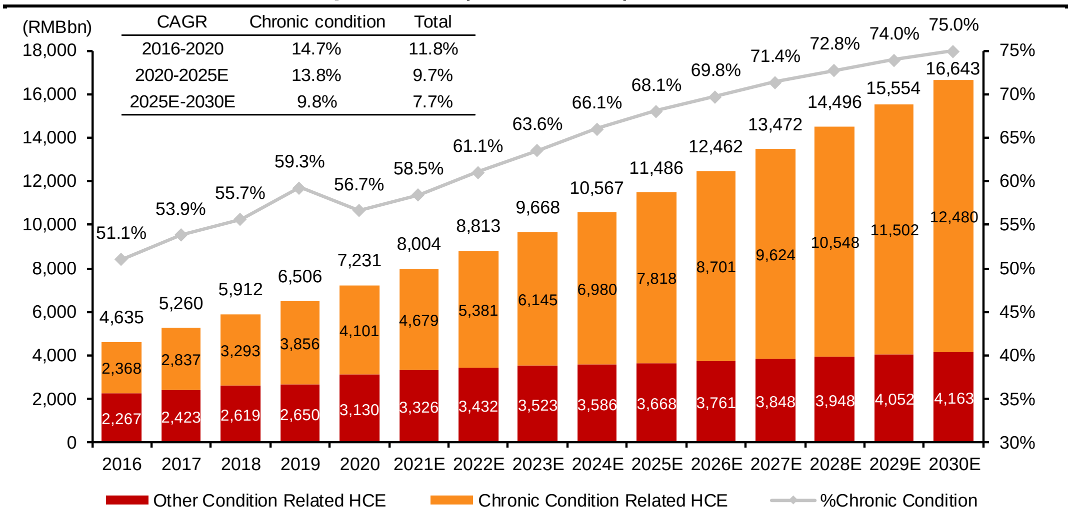
Source: F&S, CMBIGM.
Note: HCE stands for healthcare expenditure

Overview of China's chronic condition management market

China's chronic condition management market, with a massive patient population and high growth potential, is one of the most important segments of the country's healthcare market. As of 31 December 2020, there were 133mn, 324mn, and 89mn patients in China with diabetes, hypertension, and hypercholesteremia conditions, respectively, and these patient populations are expected to grow continuously.

According to F&S, healthcare expenditure for chronic conditions in China is expected to grow from RMB4,100.6bn (56.7% of total healthcare expenditure in 2020), to RMB12,479.9bn (75.0% of total healthcare expenditure in 2030). Furthermore, prescriptions for chronic conditions accounted for 87.0% of all prescriptions in 2020, and are expected to constitute 90.0% in 2030.

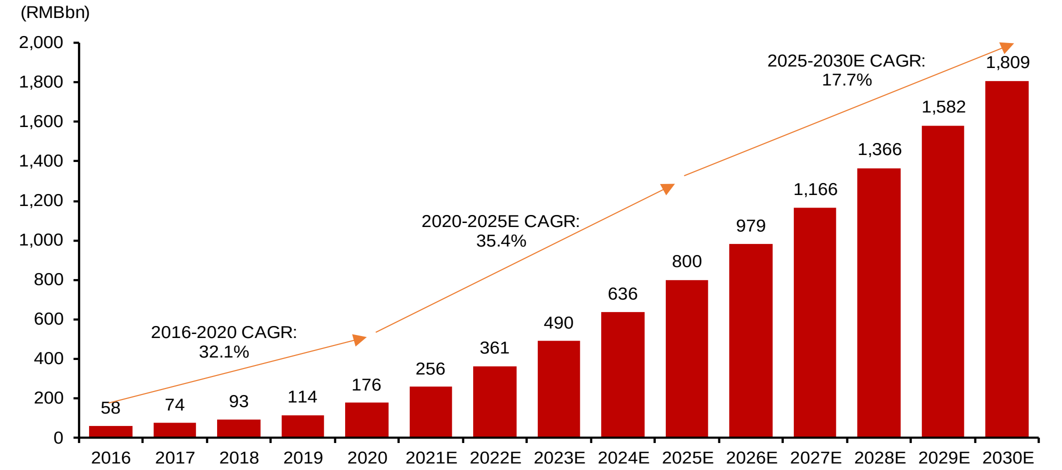
Figure 39: Breakdown of China healthcare expenditure by chronic condition and other condition related expenditure (2016−2030E)



Source: F&S, CMBIGM

Digital chronic condition management market in China consists of chronic condition management service and relevant product sales revenue. Digital chronic condition products include pharmaceuticals, consumables, medical devices, nutrition and supplements, and others for chronic condition. The market size of the digital chronic condition management market in China grew from RMB57.8bn in 2016 to RMB176.1bn in 2020, with a CAGR of 32.1% over the period. This is expected to further grow to RMB800.1bn in 2025 and RMB1,808.5bn in 2030, representing CAGRs of 35.4% from 2020 to 2025 and 17.7% from 2025 to 2030.

Figure 40: China digital chronic condition management market size (2016-2030E)



Source: F&S, CMBIGM

Key trends in chronic condition management

Expanding the outflow of prescription drugs

Prescription outflow is an important and emerging trend. The potential penetration of prescription drugs outflow is expected to increase to maximum 87.6% of out-patient drug sales in China, according to F&S. A number of policies have been promulgated to support prescription outflow.

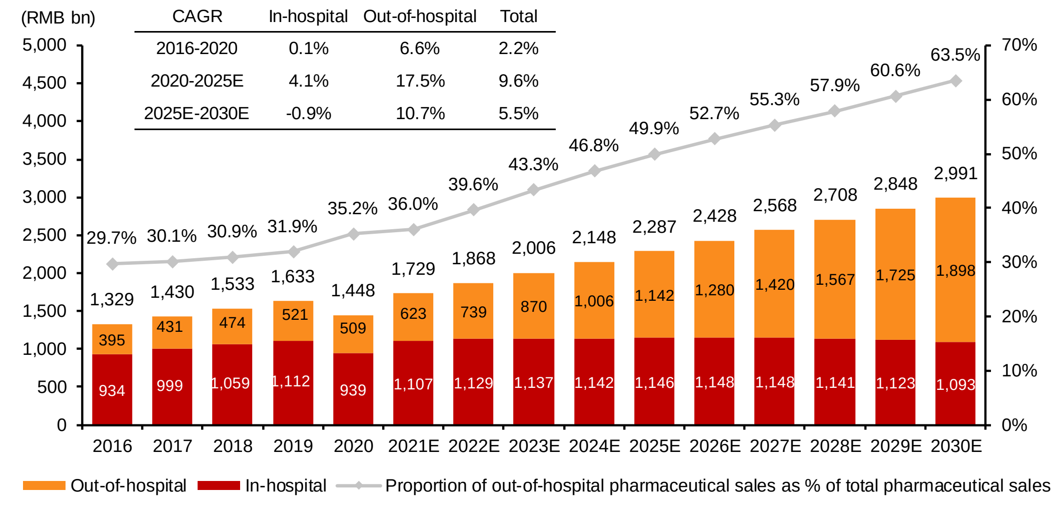
Figure 41: Key national policies in prescription outflow

Time	Government agency	Policy	Detail
May-2015	General Office of the State Council	Guidance regarding the comprehensive reformation of public hospitals	Separating medical services from drug selling in public hospitals
May-2017	General Office of the State Council	Major tasks in deepening the reformation of healthcare system (2017)	Encouraging the information sharing among pharmacies, hospitals and government agencies
Apr-2018	General Office of the State Council	Advice regarding promoting the development of “Internet + Healthcare”	First time allowing the establishment of Internet hospitals and online consolations on certain common and chronic diseases along with drug delivery via third-parties
Dec-2019	National Development and Reform Commission	Advice regarding promoting “Internet + social services”	Encouraging the development of Internet hospitals
Mar-2020	National Healthcare Security Administration; National Health Commission	Guidance regarding promoting “Internet+” medical services during the COVID-19 pandemic prevention and control	Allowing online medical consultation, medicine purchasing and reimbursement
May-2021	National Healthcare Security Administration; National Health Commission	Advice regarding establishing and improving the “Double-Channel” system on drugs included in the national drug negotiations	Encouraging the connection between pharmacies, government agency and e-prescription centers
Jul-2021	National Healthcare Security Administration	Advice regarding improving service quality in medical security areas	Promoting the integrated services of prescription outflow, online payment and home delivery
Aug-2021	National Healthcare Security Administration; National Health Commission	Notice regarding the publishing of the management guidance of long-term prescriptions	Allowing patients to choose medical institutions and retail pharmacies to obtain medicines, after the issuance of long-term prescriptions
Jan-2022	National Development and Reform Commission; Ministry of Commerce	Advice regarding measures to build a pilot reformation area with Chinese features and relax restrictions on market access in Shenzhen	Promoting a pilot program of online prescription drug sales with the establishment of an E-prescription center in Shenzhen

Source: Government websites, CMBIGM

Driven by the expanding outflow of prescription drugs, the proportion of pharmaceutical sales made through out-of-hospital channels is expected to continue to increase. Amid this secular trend, pharmacies and other out-of-hospital platforms demand for a broader customer base, supply chain capabilities, and prescription circulation capabilities. The below diagram illustrates that sales of pharmaceuticals through out-of-hospital channels in China is expected to grow at a CAGR of 17.5% from 2020 to 2025, faster than those sold in hospitals, which is expected to grow at a CAGR of 4.1% during the same period.

Figure 42: Breakdown of China healthcare expenditure by chronic condition and other condition related expenditure (2016−2030E)



Source: F&S, CMBIGM

Digital healthcare marketing

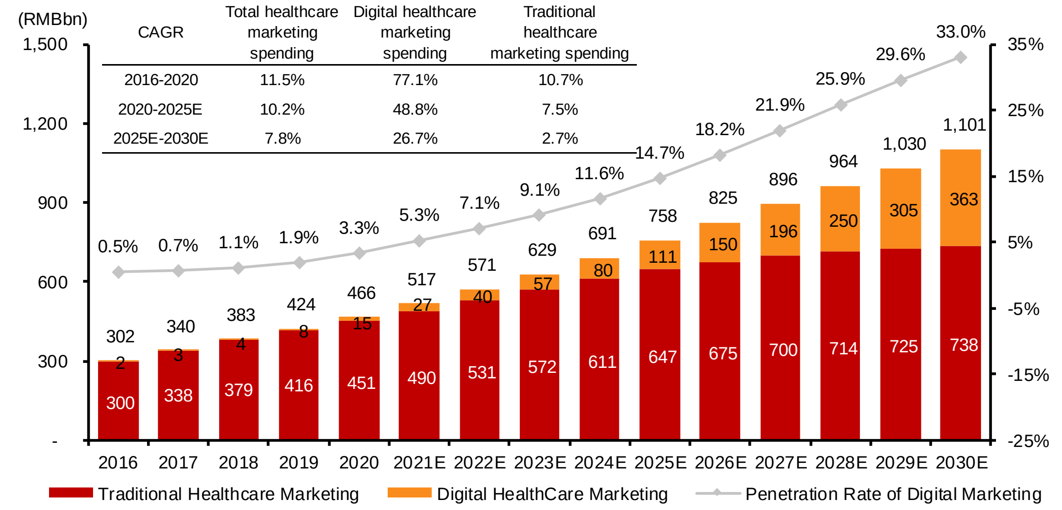
Digital marketing services are a marketing method that makes use of the internet and digital technologies, and extensive technology-empowered network, to conduct omni-channel promotion of medical products and services. The Chinese government has implemented regulations regarding reducing prices of medical products and layers of distribution channels, motivating pharmaceutical and medical device companies to widely adopt digital healthcare marketing to improve sales and marketing efficiency. Digital healthcare marketing incorporates services include digital promotion, marketing analytics and strategy and technology services. With the feature of digital healthcare marketing, pharmaceutical and medical device companies piloted to incorporate digital tools and leverage external platforms to establish omni-channel marketing capabilities to advocate their products.

Digital marketing services providers have established deep interaction with hospitals, doctors and pharmacies, and have accumulated medical care know-how. With technology insights and network of stakeholders, those providers offer digital marketing services to pharmaceutical and medical device companies, helping them expand promotional outreach and elevate product awareness.

Market opportunity

In 2018, digital marketing services started to flourish in China due to the implementation of multiple government regulations such as the “two-invoice” system and the Centralized Procurement aiming to reduce in-hospital medicine prices and layers of distribution channels. Such downfall in sales revenue caused pharmaceutical companies to reallocate the resources between traditional marketing methods and digital marketing services. Company spending on healthcare marketing increased from RMB301.5bn with a digital marketing services penetration rate of 0.5% in 2016 to RMB466.3bn with a digital penetration rate of 3.3% in 2020, according to Frost & Sullivan. It is expected that digital penetration rate will increase to 14.7% by 2025E and further to 33.0% by 2030E, translating into a digital healthcare marketing size of RMB1,101bn by 2030E.

Figure 43: Breakdown of China healthcare expenditure by chronic condition and other condition related expenditure (2016−2030E)



Source: F&S, CMBIGM

Digital infrastructure emporing chronic condition management

As chronic conditions require both in- and out-of-hospital management, a seamlessly solution, whereby patients can conduct routine online visits and seek offline physical examination and diagnosis if circumstances require, can effectively address patient needs. In order to offer such solutions for patients, digital infrastructure need to be designed to connect stakeholders such as hospitals, pharmacies, insurance companies and other participants across the value chain. Below illustrates the key benefits of digital infrastructure.

Figure 44: Key benefits of digital infrastructure in healthcare

Benefits	Details
Integration of healthcare resources	Integrating medical resources that are available only in hospitals with out-of-hospital healthcare resources to enable patients to receive integrated medical services wherever they are
High efficiency empowered by technology	With advanced technologies, such as AI and medical big data, a doctor can respond to nearly 2,000 queries per day on a digital chronic condition management platform. In contrast, a doctor can only deal with 100 queries per day in a traditional hospital
Improving patient-centric management	Improving service quality for the healthcare system by connecting major stakeholders, simplifying the consultation, prescription, and treatment process, forming a patient-centric ecosystem, and strengthening access to more medical resources
Seamless collaboration of industry stakeholders	All stakeholders, such as hospitals, pharmacies, pharmaceutical companies, patients and doctors,in a digital health system are deeply involved, which facilitate inter-system communication and interaction with one another

Source: Company data, CMBIGM

Figure 45: Key benefits of healthcare digital marketing services

Benefits	Details
Extensive and effective coverage	By providing digital infrastructure for hospitals and pharmacies, digital marketing service providers can build national coverage network in an efficient manner, which has also contributed to deep and frequent customer engagement
Increased effectiveness to doctors	Doctors are made aware of what are available and suitable based on patients' health condition and needs, and able to make better-assisted prescription decisions
Improved marketing efficiency	Marketing campaigns can be performed more quickly compared to traditional ones that require face-to-face interactions; and the digital feedbacks could be instantly gathered and analyzed
Growing needs for advanced treatments	Digital marketing services platforms allow doctors to access a large variety of most up-to-date medicines and medical devices information and help them make more informed clinical decisions
Superior marketing analytics and insights	Data feedback from digital marketing services could provide medical companies with meaningful insights regarding their campaigns and allow them to market their products to specific demographics

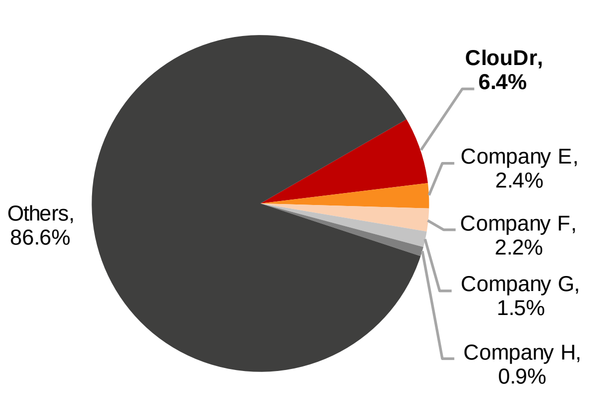
Source: Company data, CMBIGM

Competitive landscape

China's chronic condition management market is facing challenges including unbalanced medical resource allocation, operational inefficiency, a lack of digital infrastructure and unsatisfactory patient experience. Hence, China's healthcare system involves a variety of stakeholders and is poised for tremendous disruption opportunities. Integration of healthcare resources and enabling seamless collaboration among industry stakeholders are essential to delivering better medical care for end users. Leading players are expected to continue to enjoy significant first-mover advantages in terms of powerful network effects, in-depth and valuable doctor-patient relationship, active user base, innovative technologies and in-depth insights.

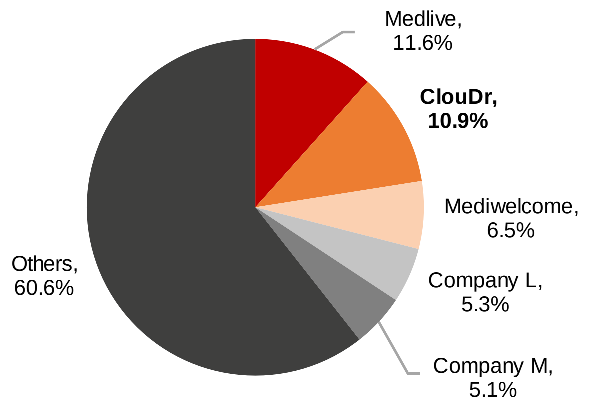
ClouDr ranked the 1st among hospital SaaS solution providers who focus on chronic condition management in China in terms of number of hospitals installed in 2021, with a total hospital penetration rate of approximately 6.4% and Class III & II hospital penetration rate of approximately 11.9%, according to F&S. The Company also ranked the 1st among pharmacy SaaS solution providers in China in terms of number of pharmacies installed pharmacy SaaS in 2021, representing a penetration rate of 28.5%. In addition, ClouDr took the 1st position in China in terms of the number of online effective prescriptions in 2021.

Figure 46: Company ranking by hospital coverage of hospital SaaS in China (2021)



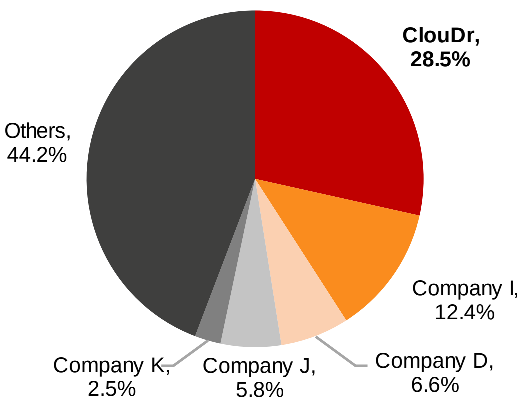
Source: F&S, CMBIGM

Figure 47: Company ranking by revenue of digital market services in China (2020)



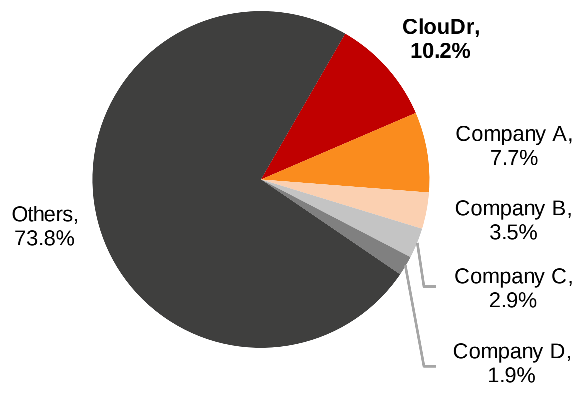
Source: F&S, CMBIGM

Figure 48: **Company ranking by pharmacy coverage of pharmacy SaaS in China (2021)**



Source: F&S, CMBIGM

Figure 49: **Company ranking in China, by number of online prescriptions issued (2021)**



Source: F&S, CMBIGM

Financial Analysis

Expect revenue to grow at CAGR of 52% in 2021-24E

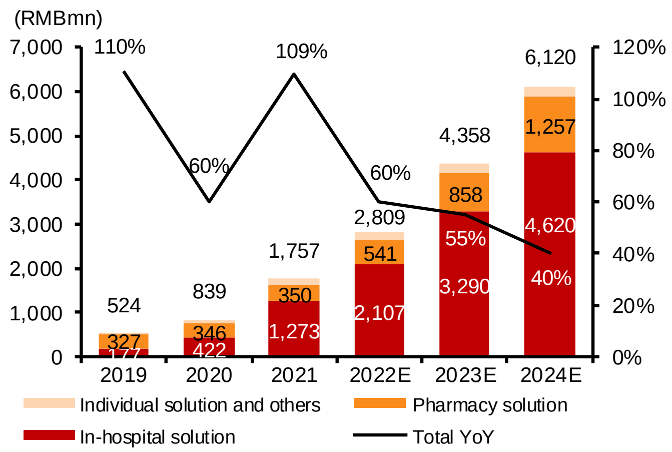
Revenue growth of ClouDr was robust over 2018-2020, due to its rapid penetration in hospitals and pharmacies. We expect such strong growth momentum to continue, reaching revenue of RMB2,809mn/ RMB4,358mn/ RMB6,120mn in 2022E/ 23E/ 24E, representing 60%/ 55%/ 40% YoY growth for respective years.

For ClouDr's in-hospital solution segment, we forecast revenue of RMB2,107mn/ RMB3,290mn/ RMB4,620mn in 2022E/ 23E/ 24E, representing YoY growth of 66%/ 56%/ 40% respectively. Key growth drivers include 1) larger installation base of hospital SaaS, 2) hospital's higher reliance on ClouDr's platform for the supply of chronic condition management products, and 3) growing digital marketing services for pharmaceutical companies via ClouDr's platform.

For ClouDr's pharmacy solution segment, we forecast revenue of RMB541mn/ RMB858mn/ RMB1,257mn in 2022E/ 23E/ 24E, representing YoY growth of 55%/ 59%/ 46%, respectively. Key growth drivers include 1) the larger installation base of pharmacy SaaS and 2) pharmacy's higher reliance on ClouDr's platform for the supply of chronic condition management products.

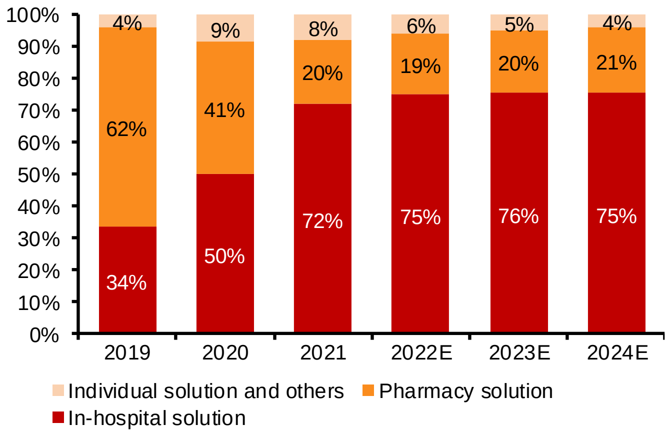
For ClouDr's individual chronic condition management solution and other businesses, we forecast revenue of RMB161mn/ RMB209mn/ RMB243mn in 2022E/ 23E/ 24E, representing YoY growth rate of 20%/ 30%/ 16%, respectively. Key growth drivers include 1) the higher paying rate for premium memberships among registered users on ClouDr's platform and 2) an increasing frequency of purchasing chronic condition products via ClouDr's platform.

Figure 50: Revenue forecasts (2019-2024E)



Source: Company data, CMBIGM estimates

Figure 51: Revenue breakdown by business segment (2019-2024E)



Source: Company data, CMBIGM estimates

We forecast the Company's blended gross profit margin (GPM) of 30.4%/ 35.5%/ 35.9% in 2022E/ 23E/ 24E.

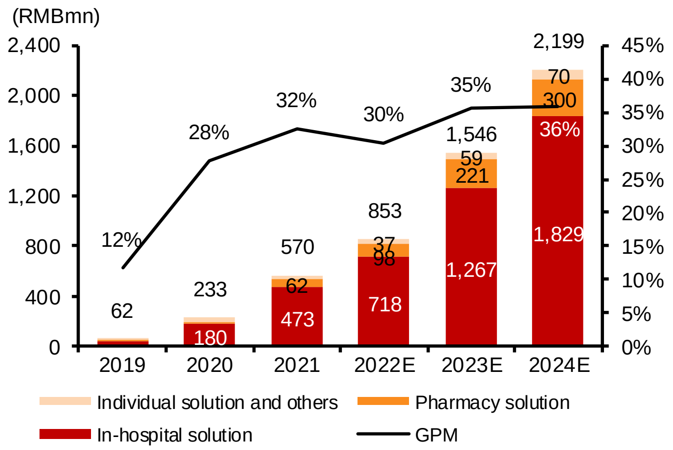
GPM of in-hospital solution segment improved from 27.1% in 2019 to 37.2% in 2021. The GPM improvement over 2019-2021 was primarily due to 1) the higher-margin digital marketing business accounting for a bigger portion of total segment revenue and 2) steady growth of revenue from supplying hospitals with chronic condition management products.

We assume GPM for the segment to remain largely stable in future years, reaching 34.1%/ 38.5%/ 39.6% in 2022E-24E, respectively.

Meanwhile, GPM of pharmacy solution segment increased from 2.0% in 2019 to 17.8% in 2021. Such GPM improvement is attributable to a revenue mix shift to higher-margin sales of pharmacy SaaS and the reducing sales of certain lower-margin products of pharmacy supplies. With the view that ClouDr will continue to optimize its revenue mix in pharmacy solution segment, we model 18.1%/ 25.7%/ 23.9% GPM for the segment in 2022E-24E.

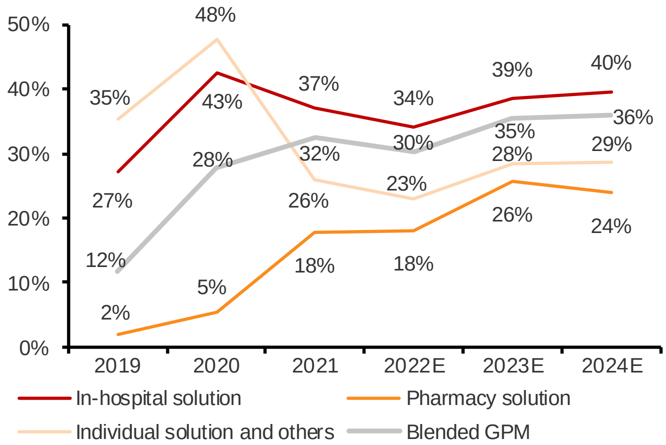
Additionally, GPM of individual solution and others segment went up from 35.3% in 2019 to 47.7% in 2020 while decreased to 25.9% in 2021. GPM improvement before 2020 was primarily due to 1) the launch of high-margin premium membership services and 2) the higher-margin advertisement agent services accounting for a bigger portion of total segment revenue. The GPM decrease in 2021 was primarily caused by the growth of its insurance brokerage services, which has a relatively lower GPM. Considering ClouDr's focus on growing its premium membership services, we forecast the Company to continue to improve its GPM to 23.0%/ 28.3%/ 28.6% for the segment in 2022E-24E.

Figure 52: Gross profit and GPM (2019-2024E)



Source: Company data, CMBIGM estimates

Figure 53: GPM by business segment (2019-2024E)

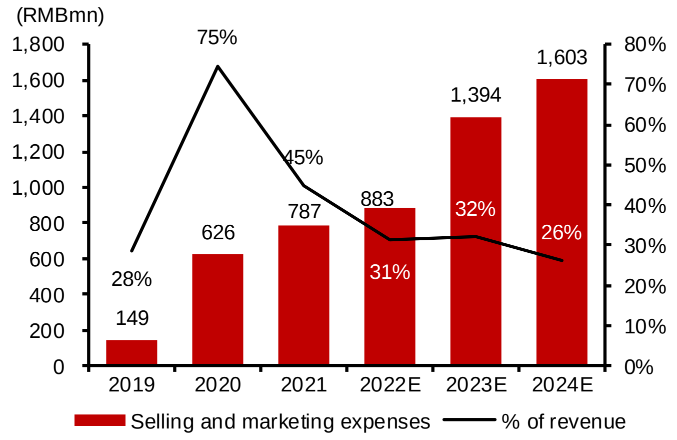


Source: Company data, CMBIGM estimates

Net profit to turn positive in 2024E thanks to the economies of scale

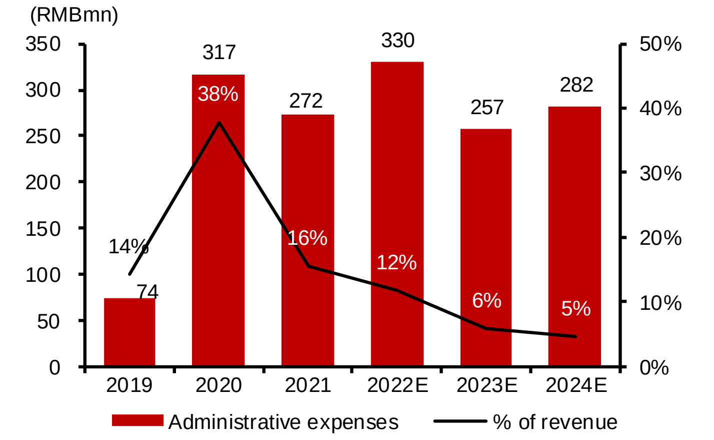
Operating expenses (the sum of selling and marketing expense, administrative expense and R&D expense) to revenue ratios saw a big jump in 2020, from 47% in 2019 to 128% in 2020, due to ClouDr's increasing effort in building its marketing team to penetrate into more hospitals. Thanks to the economies of scale, the operating expenses to revenue ratio decreased to 74% in 2021. We project such trend to continue, with selling and marketing expense to revenue ratio of 31.5%/ 32.0%/ 26.2%, administrative expense to revenue ratio of 11.7%/ 5.9%/ 4.6%, and R&D expense to revenue ratio of 6.4%/ 5.7%/ 4.4% in 2022E/ 23E/ 24E.

Figure 54: Selling & marketing expenses and selling & marketing expense to sales ratio (2019-2024E)



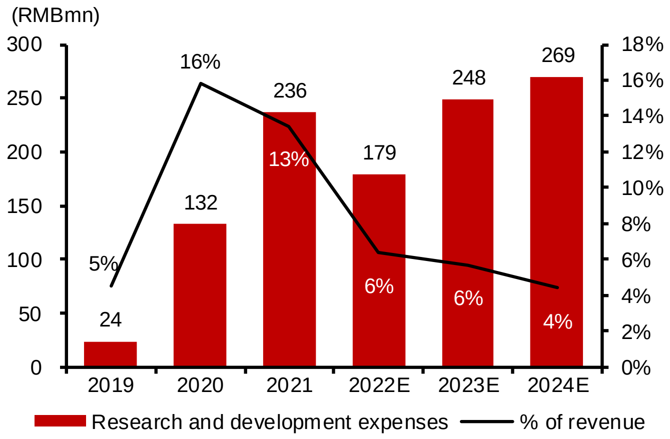
Source: Company data, CMBIGM estimates

Figure 55: Administrative expenses and administrative expenses to sales ratio (2019-2024E)



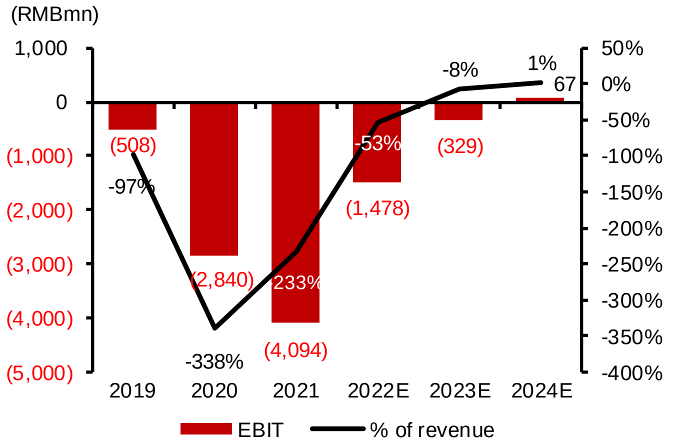
Source: Company data, CMBIGM estimates

Figure 56: R&D expenses and R&D ratio(2019-2024E)



Source: Company data, CMBIGM estimates

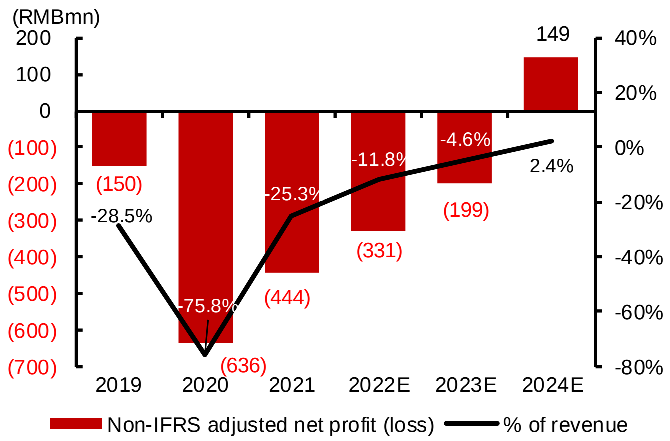
Figure 57: EBIT and EBIT margin (2019-2024E)



Source: Company data, CMBIGM estimates

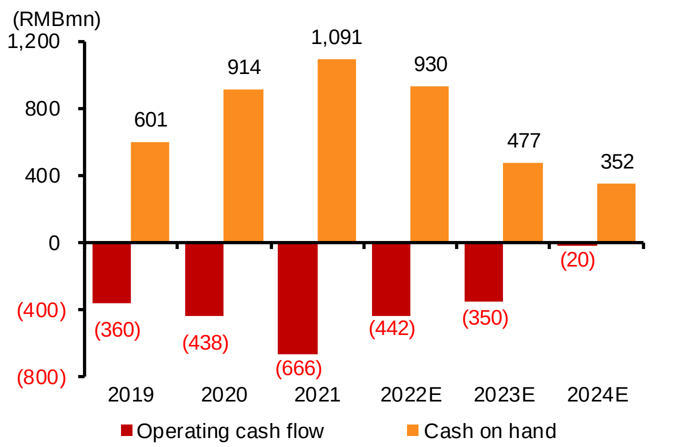
We forecast the Company's non-IFRS adjusted net profit will turn positive in 2024E, as operating margin keeps improving with economies of scale effect.

Figure 58: Adjusted net profit (loss) forecasts (2019-2024E)



Source: Company data, CMBIGM estimates

Figure 59: Cash on hand and operating cash flows (2019-2024E)



Source: Company data, CMBIGM estimates

Figure 60: P&L forecasts (2019-2024E)

(YE 31 Dec) RMB mn	2019	2020	2021	2022E	2023E	2024E
Revenue	**524**	**839**	**1,757**	**2,809**	**4,358**	**6,120**
YoY	*110.0%*	*60.0%*	*109.4%*	*59.9%*	*55.2%*	*40.4%*
Cost of services	(463)	(606)	(1,187)	(1,956)	(2,811)	(3,920)
% of revenue	*-88.3%*	*-72.3%*	*-67.6%*	*-69.6%*	*-64.5%*	*-64.1%*
Gross profit	**62**	**233**	**570**	**853**	**1,546**	**2,199**
GPM	*11.7%*	*27.7%*	*32.4%*	*30.4%*	*35.5%*	*35.9%*
Selling and marketing expenses	(149)	(626)	(787)	(883)	(1,394)	(1,603)
% of revenue	*-28.4%*	*-74.6%*	*-44.8%*	*-31.5%*	*-32.0%*	*-26.2%*
Administrative expenses	(74)	(317)	(272)	(330)	(257)	(282)
% of revenue	*-14.2%*	*-37.7%*	*-15.5%*	*-11.7%*	*-5.9%*	*-4.6%*
Research and development expenses	(24)	(132)	(236)	(179)	(248)	(269)
% of revenue	*-4.5%*	*-15.8%*	*-13.4%*	*-6.4%*	*-5.7%*	*-4.4%*
Other net income	5	6	30	29	24	22
% of revenue	*0.9%*	*0.7%*	*1.7%*	*1.0%*	*0.6%*	*0.4%*
Profit (loss) from operations	**(181)**	**(837)**	**(696)**	**(510)**	**(329)**	**67**
% of revenue	*-34.5%*	*-99.7%*	*-39.6%*	*-18.2%*	*-7.5%*	*1.1%*
Finance costs	(58)	(58)	(62)	(10)	(10)	(10)
% of revenue	*-11.0%*	*-6.9%*	*-3.5%*	*-0.3%*	*-0.2%*	*-0.2%*
Changes in fair value of financial liabilities	(327)	(2,003)	(3,398)	(968)	0	0
% of revenue	*-62.3%*	*-238.7%*	*-193.4%*	*-34.5%*	*0.0%*	*0.0%*
Profit (loss) before tax	**(565)**	**(2,898)**	**(4,156)**	**(1,488)**	**(339)**	**57**
PBT margin	*-107.8%*	*-345.3%*	*-236.5%*	*-53.0%*	*-7.8%*	*0.9%*
Income tax expense	(0)	1	2	0	0	(9)
% tax rate	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*15.0%*
Total net profit (loss)	**(565)**	**(2,897)**	**(4,153)**	**(1,488)**	**(339)**	**49**
Minority Interests	(8)	(30)	(14)	(5)	(1)	0
Net profit (loss) attributable to	**(557)**	**(2,867)**	**(4,139)**	**(1,483)**	**(337)**	**48**
NMP	*-106.3%*	*-341.7%*	*-235.6%*	*-52.8%*	*-7.7%*	*0.8%*
Non-IFRS adjusted net profit (loss)	**(150)**	**(636)**	**(444)**	**(331)**	**(199)**	**149**
Non-IFRS NMP	*-28.5%*	*-75.8%*	*-25.3%*	*-11.8%*	*-4.6%*	*2.4%*

Source: Company data, CMBIGM estimates

Valuation

Initiate BUY with TP of HK$31.43

We derive a TP of HK$31.43 based on a 10-year DCF valuation (WACC: 10.0%, terminal growth rate: 3.0%). ClouDr will continue to increase the installation base of hospital and pharmacy SaaS, enhance hospital and pharmacy's reliance on ClouDr's platform for the supply of chronic condition management products, and expand digital marketing services for pharmaceutical companies via ClouDr's platform.

Figure 61: DCF valuation of ClouDr

DCF Valuation (in RMB mn)	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
EBIT	(1,478)	(329)	67	558	837	1214	1700	2294	2983	3728
Tax rate	0.0%	0.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
EBIT*(1-tax rate)	(1,478)	(329)	57	474	712	1,032	1,445	1,950	2,535	3,169
+ D&A	88	104	112	116	116	116	116	116	116	116
- Change in working capital	(150)	(258)	(286)	(199)	(279)	(377)	(490)	(612)	(734)	(845)
- Capx	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
FCFF	**(1,640)**	**(583)**	**(217)**	**291**	**449**	**671**	**971**	**1,354**	**1,817**	**2,341**
Terminal value										**34,317**

Terminal growth rate	**3.0%**
WACC	**10.0%**
Cost of Equity	12.5%
Cost of Debt	5.0%
Equity Beta	0.95
Risk Free Rate	3.00%
Market Risk Premium	10.00%
Target Debt to Asset ratio	30.0%
Effective Corporate Tax Rate	15.0%

Terminal value (RMB mn)	13,200
Total PV (RMB mn)	**14,718**
Net debt (RMB mn)	(942)
Minority interest (RMB mn)	(22)
Equity value (RMB mn)	**15,682**
Equity value (HK$ mn)	**18,449**
# of shares (mn)	587
Price per share (RMB)	26.7
Price per share (HK$)	**31.43**

Source: CMBIGM estimates

Figure 62: Sensitivity analysis of DCF model

		WACC				
		9.0%	9.5%	10.0%	10.5%	11.0%
Terminal growth	4.0%	46.38	40.76	36.12	32.23	28.92
	3.5%	42.50	37.65	33.59	30.15	27.19
	3.0%	39.26	35.02	**31.43**	28.34	25.68
	2.5%	36.52	32.77	29.55	26.77	24.34
	2.0%	34.17	30.81	27.91	25.37	23.15

Source: CMBIGM estimates

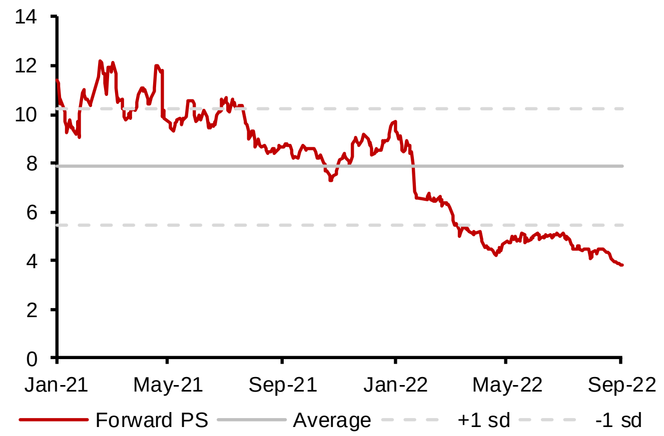
ClouDr's competitors in the online healthcare market include Ping An Good Doctor (1833 HK, BUY), JD Health (6618 HK, NR) and Ali Health (241 HK, NR). In the digital chronic condition management market, ClouDr's competitors include Yidu (2158 HK, NR) and Winning Health (300253 CH, NR). In digital marketing service area, Medlive (2192 HK, NR) is the closest peer to ClouDr.

Figure 63: Peers table

Company	Ticker	Price LC	Mkt cap US$mn	PSR(x) FY22E	PSR(x) FY23E	PSR(x) FY24E	Sales (RMBmn) 2018	Sales (RMBmn) 2019	Sales (RMBmn) 2020	Sales (RMBmn) 2021	3- year CAGR of sales (%)	Gross profit margin (%) 2020	Gross profit margin (%) 2021
JD Health	6618 HK	51.80	20,975	3.4	2.5	1.9	8,169	10,842	19,383	30,68	55%	25	23
Ping An Health	1833 HK	21.05	3,000	3.0	2.6	2.2	3,338	5,068	6,866	7,334	30%	27	23
Winning Health	300253 CH	6.97	2,154	4.5	3.6	2.9	1,439	1,908	2,267	2,750	24%	54	46
Medlive	2192 HK	11.76	1,072	21.8	16.8	11.6	84	122	214	284	50%	73	71
ClouDr *	9955 HK	15.40	1,152	2.8	1.8	1.3	250	524	839	1,757	92%	28	32
Average				**7.1**	**5.5**	**4.0**					**50%**	**42**	**39**

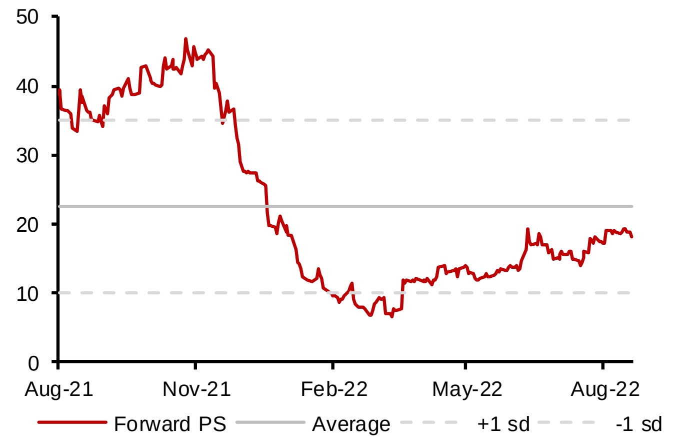
Source: Bloomberg, CMBIGM.
Note: * 2022-24E PSRs for ClouDr are based on CMBIGM forecasts of revenue in 2022-24E. Closing prices are as of 6 Sep 2022.

Figure 64: Winning Health's 1-year-forward PS band



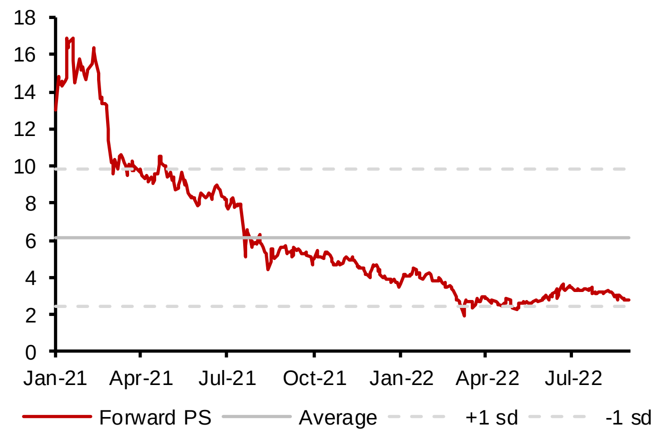
Source: Bloomberg, CMBIGM. As of 6 Sep 2022.

Figure 65: Medlive's 1-year-forward PS band



Source: Bloomberg, CMBIGM. As of 6 Sep 2022.

Figure 66: JD Health's 1-year-forward PS band



Source: Bloomberg, CMBIGM. As of 6 Sep 2022.

Figure 67: PAGD's 1-year-forward PS band

Source: Bloomberg, CMBIGM. As of 6 Sep 2022.

Investment risks

ClouDr is in the early stage of expanding and monetizing its business solution

ClouDr was founded in 2014 and is still in the early stage of expanding and monetizing its business solutions. The Company's growth depends substantially on its ability to continue to expand its networks of hospitals and pharmacies, which play an instrumental role across its solutions and are key to its revenue generation and growth. ClouDr's ability to continue to expand its networks of hospitals and pharmacies depends on a number of factors, including its ability to offer high-quality products and solutions at competitive prices, its ability to adapt our solutions to hospitals' and pharmacies' changing needs, the performance of its products and solutions, its ability to maintain comparative strength to its competitors and the effectiveness of its marketing and sales efforts. Failing to perform well in these areas will make it hard for the Company to maintain or continue to expand its hospital and pharmacy network.

On the other hand, the Company's successful monetization substantially depends on the market acceptance of its business solutions. The healthcare industry is historically slow in adapting to new trends and the Company's solutions may fail to gain long-term market acceptance. Moreover, ClouDr may fail to demonstrate the benefit of its solutions to participants in the healthcare industry, which may view the Company's solutions as less intuitive, efficient or easy to use than traditional methods. Other risks relating to monetizing its solutions include failing to retain and expand its customer base, failing to properly price its products and services, failing to be compliant to regulation or government policies, failing to develop or implement new monetization strategies and failing to compete effectively with competing solutions and services provided by its competitors.

Breakeven time is subject to uncertainties

ClouDr has incurred net losses since its inception and the amount of its net losses has been growing since 2019. The Company incurred non-IFRS net losses of RMB150mn, RMB636mn and RMB444mn for 2019, 2020 and 2021, respectively. The Company expects its costs will increase substantially in the foreseeable future as it expects to invest significant additional funds in growing its business and operating, increasing its customer base, developing new products and services, strengthening its supply chain advantages, expanding its marketing channels and operations and hiring additional employees. If the Company cannot achieve benefits anticipated from these investments or if the realization of benefits is delayed, it may not result in increased revenue sufficient to offset the higher expenses, leading to the widening of net losses.

The Company is subject to extensive and evolving legal and regulatory requirement

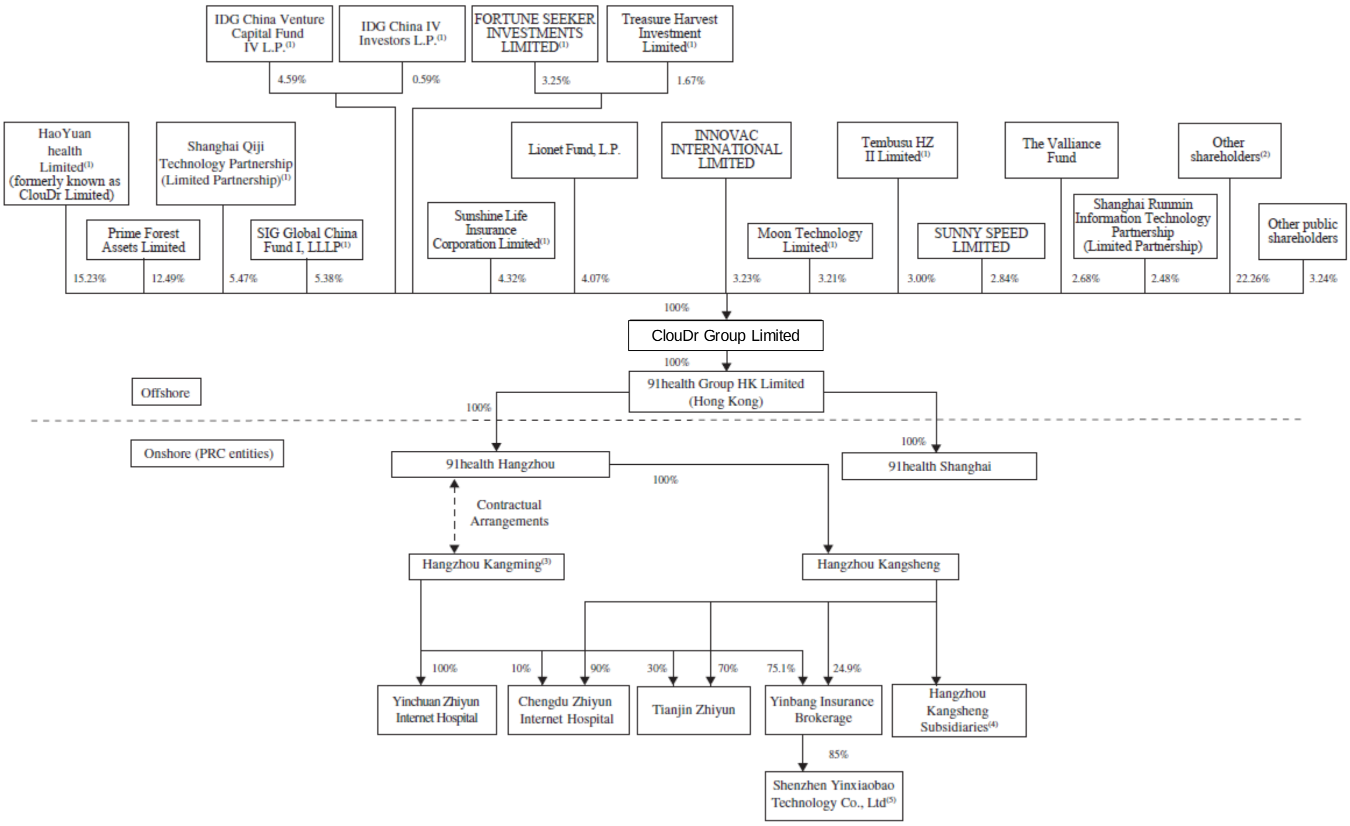
Due to the complex nature of its business, ClouDr is subject to extensive and evolving legal and regulatory requirements applicable to multiple industries in China, primarily including the internet, healthcare, internet healthcare, and pharmaceutical and chronic condition product retail industries. The regulations of China on these industries are relatively new and evolving, and their interpretation and enforcement involve significant uncertainty. ClouDr cannot assure that future laws and regulations will not render its operations non-compliant or that the Company will always be in full compliance with applicable laws and regulations. Compliance with future laws and regulations may require the Company to change its business models and practices; the cost of these changes could be significant. These additional compliance expenditures may increase future overhead, which may have a material adverse effect on the Company's business, financial condition and results of operations.

Pricing of the Company's products is subject to restrictions and regulations in China

Pharmaceuticals consumables and medical devices sold in hospitals in China were subject to government price controls in the form of fixed retail prices or retail price ceilings and periodic downward adjustments to these prices imposed by government. Sales of pharmaceuticals, consumables and medical devices relating to chronic condition management accounted for 90%, 73%, and 69% of ClouDr's total revenue in 2019, 2020, and 2021, respectively. Thus, regulatory changes on price of these products will substantially affect future revenue of ClouDr.

Appendix: Company profile

Figure 68: Ownership structure immediately following the completion of IPO



Source: Company, CMBIGM

Figure 69: Management profile

Name	Age	Date of Joinning	Position	Roles and responsibilities
Ming Kuang (匡明)	41	Dec. 2014	Founder, executive Director, chairman, CEO	Overall strategic planning, business direction and research and development initiatives
Lili Xu (徐黎黎)	40	Oct. 2020	CFO	Corporate finance, investor relations, investment and M&As
Jingxu Wang (王静旭)	53	Aug. 2018	VP for Hospital Business and Development	In-hospital solutions
Gang Li (李刚)	40	Mar. 2016	Head of technology department	Research and development of products and technologies
Yinghui Zuo (左颖晖)	46	Jan. 2015	VP of supply chain and customer services	Supply chain management and business development

Source: Company data, CMBIGM

CMB INTERNATIONAL

Financial Summary

INCOME STATEMENT	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec (RMB mn)						
Revenue	**524**	**839**	**1,757**	**2,809**	**4,358**	**6,120**
Cost of goods sold	(463)	(606)	(1,187)	(1,956)	(2,811)	(3,920)
Gross profit	**62**	**233**	**570**	**853**	**1,546**	**2,199**
Operating expenses	**(243)**	**(1,069)**	**(1,266)**	**(1,363)**	**(1,875)**	**(2,133)**
Selling expense	(149)	(626)	(787)	(883)	(1,394)	(1,603)
Admin expense	(74)	(317)	(272)	(330)	(257)	(282)
R&D expense	(24)	(132)	(236)	(179)	(248)	(269)
Others	5	6	30	29	24	22
Operating profit	**(181)**	**(837)**	**(696)**	**(510)**	**(329)**	**67**
Net Interest income/(expense)	**(58)**	**(58)**	**(62)**	**(10)**	**(10)**	**(10)**
Others	(327)	(2,003)	(3,398)	(968)	0	0
Pre-tax profit	**(565)**	**(2,898)**	**(4,156)**	**(1,488)**	**(339)**	**57**
Income tax	(0)	1	2	0	0	(9)
After tax profit	**(565)**	**(2,897)**	**(4,153)**	**(1,488)**	**(339)**	**49**
Minority interest	(8)	(30)	(14)	(5)	(1)	0
Net profit	**(557)**	**(2,867)**	**(4,139)**	**(1,483)**	**(337)**	**48**
Adjusted net profit	**(150)**	**(636)**	**(444)**	**(331)**	**(199)**	**149**

BALANCE SHEET	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec (RMB mn)						
Current assets	**1,126**	**1,533**	**2,282**	**2,404**	**2,377**	**2,774**
Cash & equivalents	601	914	1,091	930	477	352
Account receivables	159	299	497	639	776	1,006
Inventories	142	59	111	134	185	247
Prepayment	224	260	420	539	776	1,006
Other current assets	0	0	163	163	163	163
Non-current assets	**36**	**155**	**226**	**238**	**234**	**222**
PP&E	7	24	36	68	84	92
Intangibles	29	111	165	145	125	105
Goodwill	0	19	26	26	26	26
Total assets	**1,162**	**1,687**	**2,508**	**2,643**	**2,611**	**2,996**
Current liabilities	**2,032**	**5,068**	**9,644**	**10,745**	**10,913**	**11,149**
Short-term borrowings	84	204	114	114	114	114
Account payables	53	76	68	161	254	387
Other current liabilities	1,746	4,603	9,005	10,014	10,088	10,191
Accrued expenses	150	185	457	457	457	457
Non-current liabilities	**2**	**13**	**19**	**19**	**19**	**19**
Obligations under finance leases	2	2	5	5	5	5
Other non-current liabilities	0	11	14	14	14	14
Total liabilities	**2,034**	**5,081**	**9,663**	**10,764**	**10,932**	**11,168**
Share capital	0	0	0	0	0	0
Capital surplus	(855)	(3,362)	(7,138)	(8,100)	(8,297)	(8,149)
Total shareholders equity	**(855)**	**(3,362)**	**(7,138)**	**(8,100)**	**(8,297)**	**(8,149)**
Minority interest	(17)	(31)	(17)	(22)	(23)	(23)
Total equity and liabilities	**1,162**	**1,687**	**2,508**	**2,643**	**2,611**	**2,996**

CASH FLOW	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec (RMB mn)						
Operating						
Profit before taxation	**(565)**	**(2,898)**	**(4,156)**	**(1,488)**	**(339)**	**57**
Depreciation & amortization	9	35	87	88	104	112
Change in working capital	(229)	143	(140)	(150)	(258)	(286)
Others	425	2,281	3,543	1,107	143	97
Net cash from operations	**(360)**	**(438)**	**(666)**	**(442)**	**(350)**	**(20)**
Investing						
Capital expenditure	(4)	(41)	(89)	(100)	(100)	(100)
Acquisition of subsidiaries/ investments	(22)	(83)	(44)	0	0	0
Others	30	(37)	(23)	10	7	4
Net cash from investing	**3**	**(160)**	**(155)**	**(90)**	**(93)**	**(96)**
Financing						
Net borrowings	20	118	(106)	0	0	0
Proceeds from share issues	0	0	0	381	0	0
Others	793	800	1,122	(10)	(10)	(10)
Net cash from financing	**814**	**918**	**1,015**	**372**	**(10)**	**(10)**
Net change in cash						
Cash at the beginning of the year	144	601	914	1,091	930	477
Exchange difference	1	(7)	(17)	0	0	0
Cash at the end of the year	**601**	**914**	**1,091**	**930**	**477**	**352**

GROWTH	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec						
Revenue	110.0%	60.0%	109.4%	59.9%	55.2%	40.4%
Gross profit	122.2%	278.0%	144.9%	49.7%	81.3%	42.2%

PROFITABILITY	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec						
Gross profit margin	11.7%	27.7%	32.4%	30.4%	35.5%	35.9%
Operating margin	(34.5%)	(99.7%)	(39.6%)	(18.2%)	(7.5%)	1.1%
Adj. net profit margin	(28.5%)	(75.8%)	(25.3%)	(11.8%)	(4.6%)	2.4%

GEARING/LIQUIDITY/ACTIVITIES	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec						
Current ratio (x)	0.6	0.3	0.2	0.2	0.2	0.2
Receivable turnover days	71.8	99.5	82.7	83.0	65.0	60.0
Inventory turnover days	71.3	60.6	26.2	25.0	24.0	23.0
Payable turnover days	23.6	38.7	22.1	30.0	33.0	36.0

VALUATION	2019A	2020A	2021A	2022E	2023E	2024E
YE 31 Dec						
P/E	na	na	na	na	na	160.4
P/E (diluted)	na	na	na	na	na	160.4

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.

Disclosures & Disclaimers

Analyst Certification

The research analyst who is primary responsible for the content of this research report, in whole or in part, certifies that with respect to the securities or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about the subject securities or issuer; and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific views expressed by that analyst in this report.

Besides, the analyst confirms that neither the analyst nor his/her associates (as defined in the code of conduct issued by The Hong Kong Securities and Futures Commission) (1) have dealt in or traded in the stock(s) covered in this research report within 30 calendar days prior to the date of issue of this report; (2) will deal in or trade in the stock(s) covered in this research report 3 business days after the date of issue of this report; (3) serve as an officer of any of the Hong Kong listed companies covered in this report; and (4) have any financial interests in the Hong Kong listed companies covered in this report.

CMBIGM Ratings

BUY	: Stock with potential return of over 15% over next 12 months
HOLD	: Stock with potential return of +15% to -10% over next 12 months
SELL	: Stock with potential loss of over 10% over next 12 months
NOT RATED	: Stock is not rated by CMBIGM
OUTPERFORM	: Industry expected to outperform the relevant broad market benchmark over next 12 months
MARKET-PERFORM	: Industry expected to perform in-line with the relevant broad market benchmark over next 12 months
UNDERPERFORM	: Industry expected to underperform the relevant broad market benchmark over next 12 months

CMB International Global Markets Limited

Address: 45/F, Champion Tower, 3 Garden Road, Hong Kong, Tel: (852) 3900 0888 Fax: (852) 3900 0800

CMB International Global Markets Limited ("CMBIGM") is a wholly owned subsidiary of CMB International Capital Corporation Limited (a wholly owned subsidiary of China Merchants Bank)

Important Disclosures

There are risks involved in transacting in any securities. The information contained in this report may not be suitable for the purposes of all investors. CMBIGM does not provide individually tailored investment advice. This report has been prepared without regard to the individual investment objectives, financial position or special requirements. Past performance has no indication of future performance, and actual events may differ materially from that which is contained in the report. The value of, and returns from, any investments are uncertain and are not guaranteed and may fluctuate as a result of their dependence on the performance of underlying assets or other variable market factors. CMBIGM recommends that investors should independently evaluate particular investments and strategies, and encourages investors to consult with a professional financial advisor in order to make their own investment decisions.

This report or any information contained herein, have been prepared by the CMBIGM, solely for the purpose of supplying information to the clients of CMBIGM or its affiliate(s) to whom it is distributed. This report is not and should not be construed as an offer or solicitation to buy or sell any security or any interest in securities or enter into any transaction. Neither CMBIGM nor any of its affiliates, shareholders, agents, consultants, directors, officers or employees shall be liable for any loss, damage or expense whatsoever, whether direct or consequential, incurred in relying on the information contained in this report. Anyone making use of the information contained in this report does so entirely at their own risk.

The information and contents contained in this report are based on the analyses and interpretations of information believed to be publicly available and reliable. CMBIGM has exerted every effort in its capacity to ensure, but not to guarantee, their accuracy, completeness, timeliness or correctness. CMBIGM provides the information, advices and forecasts on an "AS IS" basis. The information and contents are subject to change without notice. CMBIGM may issue other publications having information and/ or conclusions different from this report. These publications reflect different assumption, point-of-view and analytical methods when compiling. CMBIGM may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

CMBIGM may have a position, make markets or act as principal or engage in transactions in securities of companies referred to in this report for itself and/or on behalf of its clients from time to time. Investors should assume that CMBIGM does or seeks to have investment banking or other business relationships with the companies in this report. As a result, recipients should be aware that CMBIGM may have a conflict of interest that could affect the objectivity of this report and CMBIS will not assume any responsibility in respect thereof. This report is for the use of intended recipients only and this publication, may not be reproduced, reprinted, sold, redistributed or published in whole or in part for any purpose without prior written consent of CMBIGM.

Additional information on recommended securities is available upon request.

For recipients of this document in the United Kingdom

This report has been provided only to persons (I)falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended from time to time)("The Order") or (II) are persons falling within Article 49(2) (a) to (d) ("High Net Worth Companies, Unincorporated Associations, etc.,) of the Order, and may not be provided to any other person without the prior written consent of CMBIGM.

For recipients of this document in the United States

CMBIGM is not a registered broker-dealer in the United States. As a result, CMBIGM is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. The research analyst who is primary responsible for the content of this research report is not registered or qualified as a research analyst with the Financial Industry Regulatory Authority ("FINRA"). The analyst is not subject to applicable restrictions under FINRA Rules intended to ensure that the analyst is not affected by potential conflicts of interest that could bear upon the reliability of the research report. This report is intended for distribution in the United States solely to "major US institutional investors", as defined in Rule 15a-6 under the US, Securities Exchange Act of 1934, as amended, and may not be furnished to any other person in the United States. Each major US institutional investor that receives a copy of this report by its acceptance hereof represents and agrees that it shall not distribute or provide this report to any other person. Any U.S. recipient of this report wishing to effect any transaction to buy or sell securities based on the information provided in this report should do so only through a U.S.-registered broker-dealer.

For recipients of this document in Singapore

This report is distributed in Singapore by CMBI (Singapore) Pte. Limited (CMBISG) (Company Regn. No. 201731928D), an Exempt Financial Adviser as defined in the Financial Advisers Act (Cap. 110) of Singapore and regulated by the Monetary Authority of Singapore. CMBISG may distribute reports produced by its respective foreign entities, affiliates or other foreign research houses pursuant to an arrangement under Regulation 32C of the Financial Advisers Regulations. Where the report is distributed in Singapore to a person who is not an Accredited Investor, Expert Investor or an Institutional Investor, as defined in the Securities and Futures Act (Cap. 289) of Singapore, CMBISG accepts legal responsibility for the contents of the report to such persons only to the extent required by law. Singapore recipients should contact CMBISG at +65 6350 4400 for matters arising from, or in connection with the report.