E-Pharmacies Disrupting the Pharmacy Supply Chain

E-pharmacies use automation technology to deliver lower-cost prescriptions to consumers

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Introduction

The way people obtain their prescription drugs is changing. An industry traditionally dominated by brick-and-mortar pharmacies is slowly gravitating toward online home delivery with the help of a growing venture-backed ecosystem of e-pharmacies. Today, e-pharmacy drug distribution represents a relatively minuscule share of the prescription industry, some $60 billion of a $300+ billion market for prescription drugs. However, the opportunity to grow market share for drug delivery is attracting significant venture capital. E-pharmacies not only represent a potentially more convenient option for consumers compared to in-store pick-up but also promise to reduce drug costs through the introduction of scale efficiencies and automation technologies. In addition, research indicates that home drug delivery can increase medication adherence, potentially improving patient outcomes.[1]

Currently, the e-pharmacy provider landscape is very fragmented and includes legacy pharmacy incumbents such as those listed in the table on Page 2 as well as pure-play online-only startups, such as NowRX, Ro, and Medly. Many of these players are still experimenting to determine which business models are the most effective. Some of the features and operational models gaining attention include central distribution hubs, walk-in patient advisory services, offerings for the uninsured, partnerships with health providers, and developing mobile engagement strategies. However, these new providers also face challenges related to risks from online fraud. As this industry expands and attracts more venture capital, we expect winning models to emerge, drawing the attention of pharmacy incumbents, who are likely to become active acquirers in the industry. This note provides an overview of the e-pharmacy market landscape, forecasts future trends, and introduces leading venture-backed startups in the industry.

1: "E-Prescribing Enables Pharmacists to Improve Medication Adherence," McKesson, 2020.

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Overview

E-pharmacies first entered the market in 1990 as ecommerce sites that sell and deliver over-the-counter (OTC) and prescription medicines to consumers. Similar to physical pharmacies, electronic pharmacies typically purchase medicines directly from manufacturers and sell them for a higher price to consumers. E-pharmacies have grown because of their convenience, wide array of drug availability, and often lower drug price offerings relative to traditional competitors. Still, in 2019, only 4.9% of prescriptions were ordered via mail delivery—although we note this does not include prescriptions delivered via in-house e-pharmacy delivery couriers.

While industry penetration had been making slow progress, the improvement in pharmacy automation technology (PAT) and the COVID-19 pandemic have emerged as key growth catalysts over the past year. For example, CVS experienced a 500% increase in home delivery of retail prescriptions between Q1 and Q2 2020 due to the pandemic's onset. Meanwhile, innovative PAT is helping reduce fulfillment costs and expedite operations. Relative to traditional pharmacies, e-pharmacies are better-suited to implement PAT because customer demand from large geographical areas can be pooled in central fulfillment centers, driving superior operational scale advantages. Additionally, doctors and insurers are starting to encourage patients to use e-pharmacies because home delivery has been shown to reduce drug inadherence—a key cause of re-hospitalization.[2]

US consumers spend $328.0 billion yearly on retail prescription drugs, a market opportunity too massive for one provider to dominate. While the current e-pharmacy industry is fragmented and consists of many early-stage startups, we expect several large e-pharmacies will eventually emerge, with incumbents actively acquiring startups to help expand their own delivery offerings. We expect incumbents will primarily focus on acquiring startups that can provide technologies and solutions that improve the customer experience and reduce fulfillment costs.

Select key incumbents

Incumbents		
Anthem (NYS: ANTM)	MedAvail (NAS: MDVL)	Pill Pack
CVS Health (NYS: CVS)	MYRA Investments	Rite Aid (NYS: RAD)
DocMorris	National Medical Health Card Systems	Walgreens Boots Alliance (NAS: WBA)
Humana (NYS: HUM)	Netmeds.com	Walgreens Health Initiatives
IngenioRx	OptumRx	Walmart (NYS: WMT)
Kroger (NYS: KR)	Pharmacy2U	WellPoint Health Networks

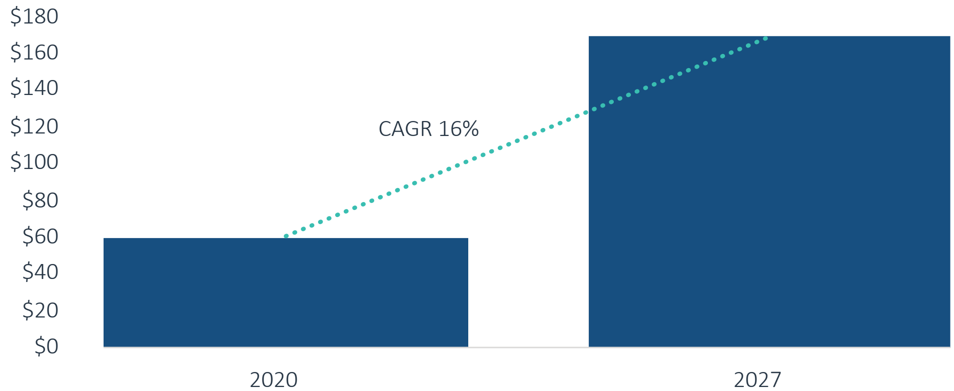
Source: PitchBook

2: Ibid.

Market size

We believe the e-pharmacy market for both over-the-counter (OTC) and prescription drugs will reach $170.0 billion by 2027, growing at a CAGR of 16% from 2020 to 2027. While OTC drugs represent most of the market, we expect prescription drugs to grow at a faster rate because of the increasing prevalence of chronic diseases and specialty drug development. Other growth drivers include the integration of e-pharmacies with e-prescribing platforms and electronic health records (EHRs), as well as increased consumer awareness of prescription delivery services.

E-pharmacy market size ($M)



Source: PitchBook | **Geography:** Global

Industry drivers

Pandemic-driven ecommerce: E-pharmacies allow patients to avoid visiting a pharmacy in person, a valuable feature for the elderly and those seeking to minimize exposure to and prevent the spread of COVID-19. While consumers may have previously avoided transitioning to e-pharmacies due to habit, difficulties transferring prescriptions, and concerns regarding online drug-purchase safety, the pandemic has caused them to make the transition. For example, PharmEasy has reported a 100% increase in demand over recent months. We anticipate consumers will grow accustomed to using e-pharmacies and keep using them even after the pandemic is over.

Ability to offer drugs at a lower cost: E-pharmacies provide many scale efficiencies, including increased volume, which allows bulk purchasing; increased throughput, which reduces expired drug waste; lower occupancy costs versus maintaining pharmacies in rural areas; and lower employee expenses from higher levels of process automation—all of which can result in lower drug prices for customers.

Improved digital infrastructure: Increased adoption of digital services has helped make consumers comfortable with purchasing drugs online while satisfying their preference for quick delivery. Improved healthcare IT infrastructure makes it easier for e-pharmacies to integrate with e-prescribing platforms and EHR systems. This improves healthcare providers' ability to send prescriptions directly to e-pharmacies, monitor when the prescriptions are filled, and ensure consumers are not receiving multiple prescriptions.

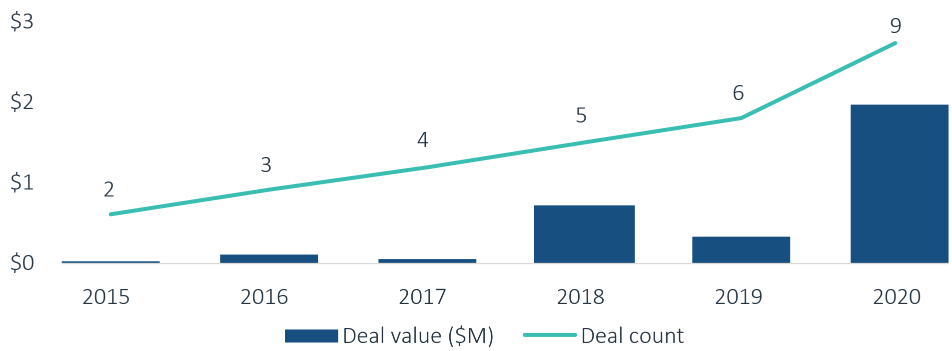
Government initiatives to minimize the risk of illicit e-pharmacies: The US Food and Drug Administration (FDA) is actively working to heighten awareness related to the safety of e-pharmacies and diminish fraudulent e-pharmacy activity.

Development of new specialty drugs: New specialty drugs, especially biologics, can be expensive and are generally not available in retail pharmacies. E-pharmacies use larger fulfillment centers that can keep less-frequently prescribed drugs in stock with lower expiration risk.

E-pharmacy startup risks

Incumbents benefit from long-standing PBM agreements: Network and management agreements between pharmacy benefit managers (PBMs) and pharmacies may make it difficult for startups to offer competitive prices. PBMs negotiate discounts and rebates with drug manufacturers, provide payment and claims processing, and aggregate consumer demand in order to reduce drug prices. In the US, there are fewer than 30 major PBMs, and the largest three—ExpresScripts, CVSHealth, and OptumRX—comprise 78% of the market.[3] This incentivizes startups to partner with PBMs and increases the likelihood of M&A among incumbents and new providers.

Incumbent VC investment activity in healthtech startups



Source: PitchBook | **Geography:** Global

Inability to deliver drugs fast enough: Consumers' desire to immediately pick up urgent prescriptions or their fear of delivery delays or incorrect shipments will increase retail pharmacy stickiness. E-pharmacies often have one fulfillment center per 20-mile delivery radius, so even those that offer in-store pickup may not be "local" enough for many customers.

Trust and privacy concerns: E-pharmacies must demonstrate they are providing a safe and reliable alternative to what consumers are accustomed to. Retail locations also provide consultant services that could be harder to replicate in an e-pharmacy setting. Consumers may also be reluctant to provide health data to large tech firms such as Amazon, which recently launched an online pharmacy.

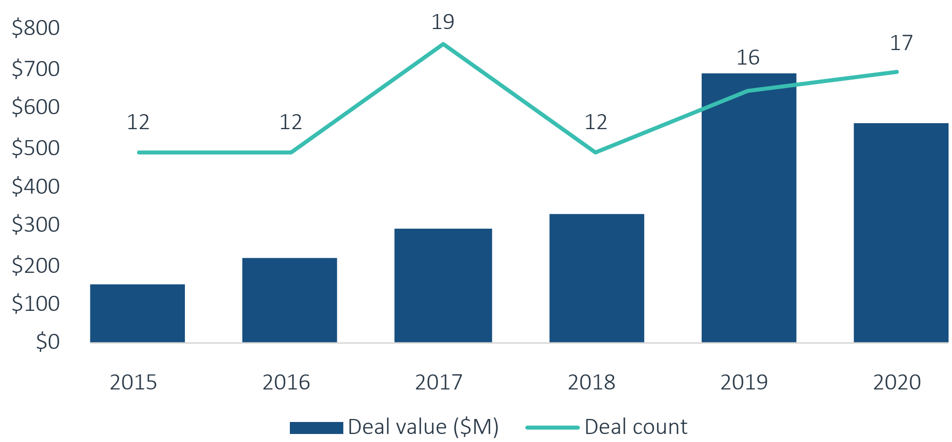
3: "Big Pharmacies Are Dismantling the Industry that Keeps US Drug Costs Even Sort-Of Under Control," Quartz, Brian S. Feldman, March 29, 2016.

VC activity

E-pharmacies raised $557.9 million in 2020 across 17 deals, roughly in line with 2019's deal value and count. Alto raised the largest VC deal in 2020, a $250.0 million series D. Alto provides end-to-end support for everything from coordinating benefits with insurance to delivering prescriptions to the consumers' doorstep. In 2019 we tracked two deals of a similar value: Capsule's $200.0 million series C and PharmEasy's $220.0 million series D. Capsule has a similar business to Alto but targets different geographical markets. PharmEasy is one of India's top e-pharmacy applications. After raising its series D, PharmEasy and MedLife announced a merger in which MedLife will be selling off its operations to PharmEasy for a stake in the latter of nearly 20%. This merger will offer business expansion opportunities to PharmEasy in emerging economies.

We believe the e-pharmacy space remains ripe for consolidation. Notable exits in recent years include Netmeds.com's acquisition of local drug delivery app Pluss in 2016, Amazon's acquisition of PillPack in 2018, and Pharmasimple's acquisition of 1001Pharmacies in February 2019.

E-pharmacy VC deal activity



Source: PitchBook | **Geography:** Global

Top e-pharmacy VC deals in 2020

Company Name	Close Date	Deal Value ($M)	Pre Value ($M)	Post Value ($M)
Alto (Other Healthcare Services)	January 30, 2020	$250.0	$350.0	$600.0
Medlife (Specialty Retail)	March 1, 2020	$21.0	N/A	N/A
Medly Pharmacy	July 14, 2020	$100.0	$205.0	$275.0
NowRx	July 15, 2020	$20.0	$80.0	$100.0
Nurx	August 11, 2020	$22.5	$300.0	$322.5
Medlife (Specialty Retail)	August 13, 2020	$22.4	N/A	N/A
Truepill	September 9, 2020	$75.0	N/A	N/A

Source: PitchBook | **Geography:** Global

Outlook

Incumbents to expand their reach across the drug distribution ecosystem: We expect incumbent pharmacies to pursue a broad range of strategies to strengthen their position within the drug distribution ecosystem. These include partnering with, building, or acquiring telemedicine platforms, pharmacy automation tools, in-store pharmacies, and PBMs. Integrations between telehealth providers and e-pharmacies can improve end-to-end remote medical treatment. With such improvements in mind, e-pharmacy startup Ro acquired Workpath, an in-home healthcare diagnostics platform, in December 2020.

E-pharmacies will cross-sell other products: With a captive digital audience, e-pharmacies are likely to use their e-commerce platforms to sell additional products and services, such as pill scanners and identifiers. Pill scanners help consumers manage personal medications while pill identifiers provide comprehensive drug information, including dosing instructions, side effects, interactions, and warnings.

Government regulations will favor market growth: Asynchronous telemedicine, which saves patient messages and videos to be reviewed by physicians later, is not available in all states. As a result, e-pharmacies with telemedicine offerings need to adapt to individual states' legislation; failure to do so minimizes market size. For example, Nurx CEO Varsha Rao says her company, an e-pharmacy that uses asynchronous telemedicine—cannot operate in 20 states because of asynchronous telemedicine bans. She points out that while 90% of the population resides in the 30 states in which Nurx operates, uncovered states have the highest concentration of healthcare "deserts."[4] We believe states will decrease legislative barriers to telemedicine, such as asynchronous telemedicine bans, in the coming years—as Maryland did in April 2020.

Shift toward transparent pricing: Customers often don't know how much a medication will cost under their insurance until they purchase it. New technologies related to e-pharmacies will increase price transparency so that doctors and patients can see the cost of drugs at the time of prescribing. This would enable doctors to ensure medications are covered under patients' insurance and prescribe alternatives if not. E-pharmacies with telemedicine capabilities may be able to do this more quickly than traditional pharmacies.

4: Varsha Rao, telephone interview by Kaia Colban, November 24, 2020.

E-pharmacy provider profiles

NowRX[5]

NowRX is a full-service digital pharmacy that delivers all medication types to customers' doorsteps. Management believes the company's edge is derived from its focus on using technology to automate processes and drive efficiencies that can reduce costs, speed up insurance claims, and provide a better experience for stakeholders, including customers and prescribers.

NowRX markets primarily to physicians to drive patient referrals. Management stated that while the pandemic has increased demand for prescription delivery, the company's primary customer base consists of consumers with chronic illnesses. The pandemic has slowed the number of one-off appointments and surgeries that may require single prescriptions. While management cites a 100% YoY growth rate in customers and revenue, it has not disclosed revenue data.

NowRX relies heavily on automation to provide services. The company receives prescriptions primarily via direct integration with physician e-prescribing platforms, or from customers who upload a prescription directly through the company's mobile app. Copay and claims filing processes are also automated, minimizing labor costs and speeding up service. Prescriptions are sent to a robot that can process the order in under 30 seconds. After manual verification by in-house pharmacists, NowRX's couriers can deliver medicines within 2–4 hours for free or in less than an hour for a $5 fee. Customers can track orders through their mobile applications. On-site pharmacists can help answer medication-related questions over the phone.

The company has raised $34.3 million, with its latest round of $20.0 million in July 2020. Management had five micro fulfillment centers in 2020 and plans to have 12 more in operation by the end of 2021. Centers typically take 12–16 months to break even as high volume is crucial to justify tech implementation costs and create efficient delivery routes. The company plans to launch a telehealth platform in January that will allow customers near delivery sites to speak directly with physicians and receive new prescriptions. Longer-term management seeks to develop an insurance program and pharmacy discount card program that can improve price transparency for customers.

Medly[6]

Medly is a full-service digital pharmacy that provides same-day doorstep delivery. It launched in June 2017 and currently delivers to patients in six cities. Medly prides itself on exceptional customer service and believes its 24/7 pharmacist support; mobile application, which allows customers to order, refill, and track their medications; and research team that searches for customer-specific medication discounts have enabled it to receive a customer satisfaction score 4.5 times greater than the average pharmacy. Furthermore, Medly is confident its high-touch services, which benefit patients managing multiple prescriptions, and low-tech offerings for less tech-savvy customers will enable them to stay competitive.

5: Cary Breese, telephone interview by Kaia Colban, November 24, 2020.
6: Marg Patel, telephone interview with Kaia Colban, December 9, 2020.

Medly's target market consists of both patients that might have the occasional prescription to chronic patients in need of a comprehensive pharmacy solution. It gains customers through a combination of marketing strategies that include direct to consumer marketing, community and grassroots marketing, and working with physicians to promote its pharmacy. Medly attracts physician interest by providing seamless medication processing and paperwork and providing prescribing doctors with medication compliance metrics. As of July 2020, Medly had partnered with 15,000 doctors, served 50,000 patients, and delivered over 500,000 prescriptions. Their revenue has doubled since last year, reaching $200.0 million in 2020. Medly CEO Marg Patel believes this revenue growth is largely due to the COVID-19 pandemic.

Medly receives prescriptions through integrating with physician e-prescribing platforms or receiving the prescription directly from the customer; customers may upload a paper prescription through their mobile application or drop it off at a Medly Pharmacy. Upon receiving a prescription, Medly offers free same-day delivery and uses in-house delivery couriers to deliver medication up to 50 miles from each fulfillment center. It uses inventory prediction technology to ensure in-stock availability and mitigate expired inventory losses.

Medly has raised $110.0 million, with its latest round of $100.0 million in July 2020. Moving forward, Medly aims to develop technology to improve the pharmaceutical experience and increase coverage to 30 cities by 2021. It has begun expanding relationships with several health-tech companies including telemedicine with an eye toward potential mergers and/or partnerships. Long term, Medly is open to either an IPO or merging with another company.

NURX[7]

Nurx provides end-to-end care from access to providers to lab testing, and home medication delivery for issues including STI tests, herpes treatment, birth control, PrEP for HIV prevention, and migraines. The company believes its deep expertise in service areas and educational resource center sets it apart from competitors. Furthermore, as the largest female-focused telehealth platform, it benefits from scale and can use data to drive outcomes around things such as adherence and tolerance.

Nurx generates revenue by charging a $15 out-of-pocket yearly fee (although the fee for complex care may be higher). They do not partner with any insurance providers to cover consultation fees. The fee covers consultations and unlimited messaging with providers for the length of the prescription. Nurx ships patients' prescriptions direct to their homes for free using USPS 1–3-day priority shipping or sends time-urgent prescriptions to a pharmacy of the patient's choice. About half of patients pay out-of-pocket for prescriptions while others use insurance. Nurx partners with PBM insurers, which reimburse Nurx for prescriptions.

Nurx's target market is women ages 18–35, with 40% of its patients living in the south where contraceptive deserts are more prevalent. Nurx acquires new customers by creating direct-to-consumer market campaigns focused on

7: Varsha Rao, telephone interview by Kaia Colban, November 24, 2020.

ensuring trust and providing education. In 2020, Nurx focused on launching digital advertising campaigns such as television commercials. In the future, it plans to dive into community-based channels and hopes to decrease stigma and build topics around its coverage areas. Nurx considers its main competitors to be traditional, in-person healthcare services but believes lack of access to quality care and the growth in consumer awareness of telemedicine have created a viable market opportunity. It does not consider traditional e-pharmacies to be viable competition as they do not provide end-to-end care and education.

Nurx currently serves 325,000 patients monthly, boasts an NPS in the high 80s, and touts a 60% 12-month retention rate. It experienced a 50% increase in birth-control-related customer demand and more than a 100% increase in all other service areas since the onset of COVID-19. Nurx expects a 100%+ YOY growth rate in 2022. Recurring (subscription) revenue is over 80%, and the LTV:CAC[8] is 3x on average. Nurx hopes to achieve profitability in the first half of 2021.

The company has raised $137.0 million, with its latest round of $22.5 million in August 2020, and may look to raise a series D in 2021. Looking forward, management is focused on increasing service offerings while staying focused on depth rather than breadth, as 90% of patients say they would use Nurx for more services. The company believes its current total addressable market (TAM) to be $25 billion but expects its product pipeline will grow its TAM to $50 billion in the next 24 months. Furthermore, Nurx believes accepting insurance is fundamental to being a large healthcare provider and hopes to partner with insurance companies and integrate systems such as real-time insurance adjudication.

8: LTV:CAC is the ratio of customer lifetime value to customer acquisition cost.