



Understanding the forces affecting drug development, pricing, and prescribing is crucial to making the best business decisions in the new health economy.

The pace of innovation, the rise of consumerism, an aging population, and the movement toward price transparency means healthcare companies must become more agile and insightful than ever. **To thrive, healthcare companies must:**

- Adopt a strategy for data management to help drive value-based care.
- Sharpen data analytic capabilities to support the effectiveness of emerging digital health care models, accelerated by the popularity of telehealth.
- Gauge how mergers, acquisitions, and private equity activity impact competitors and sectors, especially those that are COVID-19-resilient or fast-recovering from the pandemic.
- Take advantage of, or respond to, an expanding role for pharmacists and PBM's, as the sector shifts toward a multi-drug, simultaneous drug interaction system based on pharmacotherapy science.
- · Optimize patient engagement to maximize medication adherence amidst an aging population.

Understanding the new healthcare economy will help you stay competitive

Accelerated by COVID-19 and telehealth, rapidly evolving forces are impacting drug development, pricing, and prescribing. Healthcare organizations must keep pace with these changes to remain competitive. That requires adopting stronger data strategies and interoperability capabilities to connect digital health models to value-based care and to speedier off-site drug trials. The most effective organizations will also conduct or leverage predictive analytics, which will increasingly drive value-based care through preventive measures and medications.

Though COVID-19 has temporarily slowed M&A activity, disruption in healthcare will remain the norm. Companies must understand how mergers and acquisitions in several key sectors could impact competition, through the blurring of different sectors.

And competition from online vendors such as Amazon suggests that community pharmacists must, according to one pharmacy professional, reimagine themselves as driving "...a multidrug simultaneous drug interaction

system based on pharmacotherapy science." The expanded in-person role of pharmacies during the pandemic further underscores the opportunity for the sector to become the front door to healthcare, providing patients timely ongoing advice on themes from suitable medications to adherence, especially given the growing scarcity of primarily care physicians and the aging population.

Here are the top six trends affecting healthcare businesses today, and six best practices for developing a foundation of actionable drug information and resources to help meet these challenges.

"The life sciences and healthcare industry is on the brink of large-scale disruption. In a future of health that's defined by radically interoperable data, open yet secure platforms, and consumer-driven care, what role will you play?"

— Deloitte Report on the Future of Health²

Trend #1: Opportunities to leverage big data.

As health systems transform to data-driven cultures under pressure to improve care and reduce costs, pharmaceutical companies must develop clearly defined information management strategies to optimize data acquisition, aggregation, and analysis, observes the CEO of Pharmatech Associates. This will create "a more patient centric framework resulting in better, more effective drug therapies on the market, with faster, simpler, more cost-effective clinical trials and a much higher level of patient satisfaction with regard to their overall care and treatment."

Predictive analytics is driving preventive medicine. When integrated into public health research models, big data can generate predictive analytics to better forecast risk factors and plan preventative measures including medications.

The University of Pittsburgh Medical Center (UPMC) is using data analytics to provide a holistic view of clinical, financial, payer and genomic information. UPMC is responsible for a huge amount of data, with 40+ hospitals, over 700 care sites, and a health plan with over 3.5 million members. According to the organization's CIO, UPMC4 is using analytics to proactively manage care and keep its patient population out of the hospital in the first place: "We are able to immediately target exactly what care the patient needs and pull together the right treatment plan and care team to treat the patient and prevent readmissions."

UPMC's CIO attributes his organization's success with predictive analytics to its Chief Clinical Analytics Officer and clinical analytics team, which works on the frontlines, teaching clinicians how to leverage the vast amount of insight from the organization's Clinical Data Warehouse to improve patient care.⁵

Further north, researchers at the Veteran's Affairs Boston Healthcare System and Boston University's School of Public Health have created a model to predict life expectancy in older adults with diabetes. Guidelines typically recommend that treatment plans aim for lower blood sugar levels in patients with longer life expectancy, and higher levels for those with shorter life expectancy. That's because for patients with a shorter life expectancy, "...the long-term benefits of treatment intensification may not outweigh short-term risks."

To create the model tool, researchers queried a database of 275,190 veterans with diabetes aged 65 or older for potential predictors of longevity. The query analyzed factors including patient demographics, comorbidities, procedure codes, laboratory values and anthropomorphic measurements, medication history, and previous health service utilization. The study identified 37 predictors of mortality: 4 demographic variables, prescriptions for insulin or sulfonylureas or blood pressure medications, 6 biomarkers, previous outpatient and inpatient utilization, and 22 comorbidities/procedures.

Such a predictive tool, concluded the researchers, "may enable clinicians and patients to develop individualized treatment goals that balance risks and benefits of treatment intensification."

"We are able to immediately target exactly what care the patient needs and pull together the right treatment plan and care team to treat the patient and prevent readmissions."

-CIO, The University of Pittsburgh Medical Center

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Trend 2: Despite COVID-19, disruption remains the norm in healthcare.

As the pandemic continues, Bain & Co. estimates global healthcare profits will grow at roughly 5% annually in the next five years. Causes include: "...an aging population, rising incidence of chronic illness, rising income levels, and healthcare access, innovation in treatment and technology, and likely moderate pricing growth."8

The U.S. healthcare sector remains highly attractive to healthcare investors, according to Bain. Although the pandemic disrupted the healthcare ecosystem, it also accelerated four major opportunities for investment: alternative sites of care, telemedicine, modernization of clinical trials, and healthcare provider consolidation, concludes Bain.9

Buyout volume declined only slightly to 142 deals in 2020, compared with the recordsetting 159 in 2019.¹⁰ Disclosed deal value also dropped to \$34.7 billion, down 25% from the \$47 billion in 2019.

Yet healthcare deal activity has started to bounce back, notes Bain, due to favorable long-term trends: an aging population and the rising incidence of chronic disease.

Providers will continue as a high-performing sector, according to Bain, with initial activity focused on COVID-resilient businesses and those that can recover to their baseline performance fastest.

Bain expects deal growth or acceleration in several healthcare areas in the coming year:¹¹

- Risk-bearing providers of next-generation primary healthcare.
- Biopharma services, given their exposure to a high-growth market without the inherent molecule risk.
- Life science tools and diagnostics MedTech, following greater demand during the pandemic.
- Payer services that improve patient experience and reduce employer costs.
- Healthcare IT that can demonstrate a strong ROI to users, or facilitate new modes of care delivery.



Trend #3: The role of pharmacists is expanding.

The pressures of the COVID-19 pandemic on the healthcare system are expanding the role of pharmacies—beyond medication procurement, dispensing, and counseling—to point-of-care testing (POCT), immunizations, and basic medical advice.

While many other businesses have been forced to close, pharmacies have typically remained open, providing real-time answers to patients' questions on health or medications, either in-person, or by phone. Pharmacists can also screen drugs approved to treat the coronavirus, ensuring that a medication is suitable for a patient, given their medical condition, and doesn't negatively interact with other medications they may be taking. Further, pharmacists can evaluate patients for symptoms of COVID-19, make over-the-counter recommendations to alleviate moderate symptoms such as fever, headache or sore throat, and evaluate whether immediate care is required.

The expanding healthcare role of pharmacists during the pandemic provides a preview of how these healthcare professionals can more fully contribute to public health moving forward. "Community pharmacists must position themselves as the medication regimen quarterback or coach, and charge for it as a concierge pharmacist," says the CEO of Tabula Rasa Healthcare and former president of the American Pharmacists Association, who cites competition as one motivator, from online retailers such as Amazon and its subsidiary, Pillpack.¹²

He envisions pharmacies moving from "the 50-year-old, 1-drug to 1-drug interaction construct...based on what has been reported in the literature, to a multidrug simultaneous drug interaction system based on pharmacotherapy science." He encourages fellow pharmacists to leverage their expertise in pharmacokinetics, pharmacogenomics, and pharmacodynamics, which reflects "...our real value proposition as pharmacists. Although many commercial and government insurer reimbursement models do not currently compensate pharmacists for such a level of service, he reasons that "...pharmacists assist in management of chronic conditions through comprehensive medication management services in community pharmacies."

This greater role during the pandemic could make many pharmacists the prime in-person access point to healthcare, observes the founding dean and professor of the Medical College of Wisconsin School of Pharmacy, since many patients are not visiting their providers or having as much contact with them due to COVID-19. That role can be crucial for patients with chronic medical conditions, who require medications and occasional dose adjustments, he says. To facilitate more versatile care models, he thinks EHRs will become more accessible to pharmacies, non-traditional sites, and patients. "Bidirectional access to the EHR is critical." 13

Trend #4: Telehealth is expanding digital care models.

The surge in adoption of telehealth precipitated by COVID-19 suggests that virtual care has become indispensable for remote and home-bound patients and convenient for everyone else. Given the focus on value-based care, providers such as those in many Medicare Advantage plans, will likely encourage their members to use telehealth to provide the right care at the right time.

The success of telehealth has accelerated emerging digital care systems, such as remote patient monitoring and asynchronous (automated) communication. Remote monitoring may also help bring drugs faster to market through efficient off-site clinical trials that reduce subject drop-out rates.

This expanding e-healthcare environment will drive more data collection and analysis and make interoperability essential.¹⁴

Healthcare companies, including pharmacies, PBMs, and providers, will need to sharpen their data analytic capabilities to remain competitive by supporting the improved value-based care that many of these new digital models will deliver.

Reliable software solutions will become indispensable for developing more effective medications, treatments, adherence strategies, and quantitative measures to improve patient outcomes.

Trend #5: Rising medication needs by the aging population is increasingly pressuring retail pharmacies.

About 6 in 10 U.S. adults have a chronic disease, and 4 in 10 adults have two or more. While this ratio has remained relatively stable over the past few years, the population is rapidly aging, and prescriptions are on the rise. Data suggests the U.S. faces a substantial rise in healthcare needs, especially for medication:

- 10,000 people become eligible for Medicare each dav.¹⁵
- 50% of adults over age 45 and 81% of adults over 65 have more than one chronic condition.¹⁶
- Patients with one to four chronic conditions have 9-24 prescriptions filled each year.¹⁷
- Americans with five or more chronic conditions make up 12% of the population but account for 41% of total health care spending. They have an average of 51 prescriptions filled each year.¹⁸ With increasingly complex treatments, specialty drugs, and multiple drugs per patient, the risk of preventable adverse events and medication errors is higher than ever.
- Each year, adverse drug events account for nearly 700,000 emergency department visits and 100,000 hospitalizations.¹⁹

Pharmacies have a goal of achieving 99.7% accuracy of fill, which is the industry standard. At the maximum error rate of 0.3%, this translates to 15.3 million fill errors every year. In reality, pharmacies have an average fill quality level of 96%, or 200.4 million fill errors annually. Many pharmacies are attempting to manage increasing volume and decreasing margins by asking pharmacists to fill more scripts. That means interactions between pharmacists and patients are often rushed and fall short of driving adherence and changing patient behavior.

According to the Pharmacy Quality Assurance (PQA) Commission, only 35% of pharmacists agree that the work environment is conducive to safe and effective patient care.²¹ And while filling these scripts, pharmacists are inundated with excessive alerts. These can become overwhelming and cause alert fatigue.

The result is that pharmacists often ignore the alerts, running the risk of missing relevant warnings. Dr. Marv Shepard, the former Chairman of the Pharmacy Administration Division of the College of Pharmacy at the University of Texas in Austin, says errors typically occur because pharmacists are overworked.²²



Trend #6: Patient engagement strategies are essential to improving medication adherence.

Nonadherence is an industry-wide problem with vast implications on patient health and costs. In one large study, Quest Diagnostics discovered:

- 63% of people on prescription drugs were not taking their medications as prescribed.²³
- Two in five weren't taking any medications at all, even though they had been prescribed.
- Approximately \$1 in every \$9 of total U.S. healthcare spending is wasted due to nonadherence.²⁵

The reasons for nonadherence are complex and not always within the patient's control —especially for older patients, those with agerelated memory issues such as dementia, and those with cognitive impairment.

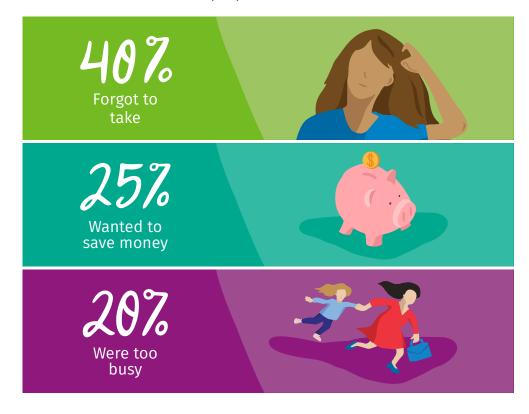
Switching to 90-day supplies of maintenance medications and enabling automatic refills can help with issues of forgetfulness and procrastination. However, patients can become confused about medication schedules when they have large supplies of their prescriptions on hand.

Research increasingly suggests that patient engagement is critical to helping deal with various barriers and to improving medication adherence. Successful patient engagement strategies include face-to-face communication as well as indirect methods such as texting and emailing.

Online patient engagement tools, such as patient portals, can play a significant role in increasing patient engagement in chronic disease management and preventative care, according to researchers from Kaiser Permanente of Southern California.²⁷ And a separate meta-analysis that analyzed different text-messaging designs in 16 random controlled trials concluded that text messaging doubled the odds of medication adherence and improved overall adherence rates by 17.8%.²⁸

In sum, enhancing patient engagement to help improve medication adherence is crucial to the future of healthcare in the U.S—and to the viability of the businesses that manufacture, price, and dispense medications.

Using patient-reported data,²⁶ the Centers for Disease Control and Prevention (CDC) found that people don't take their medications because:



To thrive in the new healthcare economy, deploy these six tactics now.

1. Set clearly defined information management strategies.

Devise an information management strategy to optimize data acquisition, aggregation, and analysis. Consider using predictive analytics to better forecast disease risk and implement preventative measures, including prescribing more preventative medications.

2. Equip your company with robust drug intelligence, including:

- Drug pricing & analysis that provides you a
 holistic view of the competitive market in
 order to help you forecast trends, research
 prices, make generic and therapeutic
 substitutions, and conduct well-planned
 product launches and market research.
- Drug data embedded into the workflow to maximize user efficiency.
- Online & mobile drug references to provide access to extensive clinical content that staff can rapidly apply to formulary, pre-authorization, and reimbursement decisions.
- Interpretation and synthesis of content so
 your company has access to evidence-based
 recommendations and analysis compiled
 by experts. With in-depth, timely,
 evidence-based content to support your
 initiatives, you'll be able add new revenue
 streams with confidence. You'll support
 your entire staff with consistent information
 so they can make the best decisions, both
 clinically and financially.

3. Get usable data reports.

Intelligence is only useful if accessible.

Drug data reports should allow you to easily manipulate and integrate into business decisions key intelligence, including claims adjudication, pricing analysis, and usage reports to business decisions. You should have the capability to selectively compare data points as needed—for example, to import and export drug pricing data to compare the prices of certain medications across the industry or within your formulary. Outcomes data as well as patient engagement trends should be accessible to support population health initiatives, as well as any value-based or outcomes-based contracts.

Apply consistent, high quality clinical content across your business lines.

The clinical content and drug information your company uses should have consistent editorial standards. Make sure your solution balances the careful review and interpretation of new information with the ability to promptly access new evidence and updates. Look for extensive content that is synthesized into concise, clinically relevant, actionable information. Working with a single partner for clinical content and drug information can ensure that decision support is not only consistent across disease state, but also referential and embedded, while patient engagement is aligned across your organization.

Make sure you implement a solution with behavioral science-backed consumer engagement techniques that you can deploy through a scalable, versatile interactive system. That allows you to reach a wide variety of consumers the way they need to be reached. You can utilize a feedback loop to learn more about your consumers and design responses to appropriately address issues.

5. Make sure data is continuously refreshed.

Your company needs to be agile in a rapidly shifting landscape. For example, when a drug price changes even a fraction of a cent, your company needs to respond in near real time. In addition, as new drugs, indications, and dosing guidelines are approved, formularies and clinical decision support content need to keep up, in order to avoid medication errors and preventable adverse events. This is particularly true for vulnerable and pediatric populations, for which access to the most current dosing information can significantly affect cost and clinical outcomes.

6. Look for flexible, compassionate customer engagement and support.

Any solution you implement should be backed by strong customer support. You should have ample access to a team that has high customer satisfaction rates. The team should be able to customize your solutions from the get-go, as well as provide the necessary user, technical, and integration support so your business can meet and exceed desired goals.

COVID-19 has accelerated the adoption of digital care models and services, and consumers are ready for more.

Now more than ever, you need exceptional support, including timely drug pricing, insightful data analysis, seamless interoperability, the latest evidence-based clinical information, and effective patient engagement. Especially in this challenging environment, such advantages can make your business more competitive by helping improve outcomes, protecting patient safety, and supporting healthier margins. This can help you not only survive this era of healthcare disruption, but thrive in it.

Learn more at https://www.wolterskluwer.com/en/health

- 1 Keith Loria, "Pharmacy in 2021: Trends to Transform an Evolving Profession," Drug Topics, January 7th, 2021, quoting Calvin Knowlton, PhD, MDiv, BScPharm, CEO, Tabula Rasa Healthcare, past President, American Pharmacists Association, https://www.drugtopics.com/view/pharmacy-in-2021-trends-to-transform-an-evolving-profession
- 2 Deloitte Consulting. (2019). The future of health: How innovation will blur traditional health care boundaries. Retrieved from <a href="https://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/future-of-health.html?id=us:2ps:3gl:fohc2:awa:lshc:032519:ad2:kwd-321616343413:%2Bhealth%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health-care/articles/future-of-health.html?id=us:2ps:3gl:fohc2:awa:lshc:032519:ad2:kwd-321616343413:%2Bhealth%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health-care/articles/future-of-health.html?id=us:2ps:3gl:fohc2:awa:lshc:032519:ad2:kwd-321616343413:%2Bhealth%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health-care/articles/future-of-health.html?id=us:2ps:3gl:fohc2:awa:lshc:032519:ad2:kwd-321616343413:%2Bhealth%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRBnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRDnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%2Btrends&gclid=CjwKCAjwscDpBRDnEiwAnQ0HQJPWQPgknN-deloitte.com/us/en/pages/life-sciences-and-health%20%2Bcare%20%
- su7RDUeRomCjbLWYtFrfKLlT5hQnhGSY2Yz-sMBIsITxoCu4wQavD_BwET

 3 Bikash Chatterjee, Chief Executive Officer, Pharmatech Associates, "The Pharma Industry Becomes Patient Centric," CPhI Pharma 2020 Report, October 5th-16th, , https://www.cphi-online.com/ the-strong-cphi-annual-report-strong-is-a-file109383.html
- Laura Dyrda, "How UPMC manages 60+ petabytes of data to proactively approach patient care," Becker's Hospital Review, January 10th, 2020, https://www.beckershospitalreview.com/data-an-alytics/how-upmc-manages-60-petabytes-of-data-to-proactively-approach-patient-care.html
- 5 Laura Dyrda, "How UPMC manages 60+ petabytes of data to proactively approach patient care," Becker's Hospital Review, January 10th, 2020, https://www.beckershospitalreview.com/data-an-alytics/how-upmc-manages-60-petabytes-of-data-to-proactively-approach-patient-care.html

- alytics/how-upmc-manages-60-petabytes-of-data-to-proactively-approach-patient-care.html
 6 Kevin N. Griffith, "Predicting 5- and 10-Year Mortality Risk in Older Adults With Diabetes," Diabetes Care, 2020 Aug; 43(8): 1724-1731, https://doi.org/10.2337/dc19-1870
 8 Bain & Co., "Global Healthcare Private Equity and M&A Report 2021," 2021, https://www.bain.com/insights/topics/global-healthcare-private-equity-ma-report/
 9 Bain & Co., "Global Healthcare Private Equity and M&A Report 2021," 2021, https://www.bain.com/insights/topics/global-healthcare-private-equity-ma-report/
 10 Bain & Co., "Global Healthcare Private Equity and M&A Report 2021," 2021, https://www.bain.com/insights/topics/global-healthcare-private-equity-ma-report/
 11 Bain & Co., "Global Healthcare Private Equity and M&A Report 2021," 2021, https://www.bain.com/insights/topics/global-healthcare-private-equity-ma-report/
 12 Keith Loria, "Pharmacy in 2021: Trends to Transform an Evolving Profession," Drug Topics, Jan 7, 2021, https://www.drugtopics.com/view/pharmacy-in-2021-trends-to-transform-an-evolving-profession
 13 Keith Loria, "Pharmacy in 2021: Trends to Transform an Evolving Profession," Drug Topics, Jan 7, 2021, https://www.drugtopics.com/view/pharmacy-in-2021-trends-to-transform-an-evolving-profession
 14 Jackie Drees and Laura Dyrda, "10 emerging trends in health IT for 2021," Becker's Health IT, December 18th, 2020, https://www.beckershospitalreview.com/healthcare-information-technology/10-emerging-trends-in-health-it-for-2021.html gy/10-emerging-trends-in-health-it-for-2021.html

 15 J. Landau, "Health-care dilemma: 10,000 boomers retiring each day," CNBC, Oct 3, 2017. Retrieved from https://www.cnbc.com/2017/10/03/health-care-dilemma-10000-boomers-retiring-each-day.html
- 16 J. Landau, "Health-care dilemma."

 17 C. Buttorff, C., T. Ruder, T., & M. Bauman, "Multiple chronic conditions in the United States," Rand Corporation, 2017.

 18 C. Buttorff, C., T. Ruder, T., & M. Bauman, "Multiple chronic conditions in the United States," Rand Corporation, 2017.

- 19 "Patient Safety Primer: Medication Errors and Adverse Drug Events," Agency for Healthcare Research and Quality, January, 2019, https://psnet.ahrq.gov/primers/primer/23/Medication-Errors-and-Adverse-Drug-Events
 20 "Pharmacy error rates," Direct Scripts, 2019, https://directscripts.com/our-solutions/mail-order-pharmacy/pharmacy-error-rates/
 20 "Pharmacy error rates," Direct Scripts, 2019, https://directscripts.com/our-solutions/mail-order-pharmacy/pharmacy-error-rates/
- 21 Pharmacy Quality Assurance Commission Pharmacy Business Practices Committee [Presentation slides], Washington State Department of Health, January 15, 2015, https://www.doh.wa.gov/ ortals/1/Documents/2300/2015/BPMeetingSlides.pdf
- 22 "Final report of the 2014 national sample survey of the pharmacist workforce to determine contemporary demographic practice characteristics and quality of work-life," Midwest Pharmacy Workforce Research Consortium, April 8, 2015. https://www.aacp.org/sites/default/files/finalreportofthenationalpharmacistworkforcestudy2014.pdf
- 23 L. Steakley, L., "Report shows over 60 percent of Americans don't follow doctors' orders in taking prescription meds," Scope, published by Stanford Medicine, April 25, 2012, https://scopeblog.stanford.edu/2012/04/25/report-shows-over-60-percent-of-americans-dont-follow-doctors-orders-in-taking-prescription-meds/

- 24 Steakley, L., "Report shows over 60 percent of Americans don't follow doctors' orders in taking prescription meds."

 25 Based on the U.S. Census Bureau's estimated 2013 U.S. population of 316 million.

 26 "CDC Grand Rounds: Improving medication adherence for chronic disease management—innovations and opportunities," Centers for Disease Control and Prevention, Morbidity and Mortality
- Weekly Report (MMWR), 66(45), November 17, 2017, https://www.cd.gov/mmwr/volumes/66/wr/mm6645a2.htm
 27 Shayna L. Henry, PhD, et al., "The Online Personal Action Plan: A Tool to Transform Patient-Enabled Preventive and Chronic Care," American Journal of Preventative Medicine, January 26, 2016, DOI: 28 Thakkar J, Kurup R, Laba TL, et al. "Mobile telephone text messaging for medication adherence in chronic disease: a meta-analysis," JAMA Intern Med. 2016;176(3):340-349, https://pubmed.ncbi.nlm.nih.gov/26831740/

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