

RAPID PROGRESS IN AN AGE OF MASSIVE CHANGE

A Letter from Tom Skelton, CEO

It's said that change is the only constant, and in healthcare, that's always been true. But in 2018, the pace of change in American healthcare felt almost unprecedented.

Drug pricing made headlines, and data confirmed that medications are taking up a greater share of budgets: Prescription drug spending was projected to rise faster than spending in any other major healthcare sector. The impact was magnified for the growing share of Americans managing chronic conditions and those taking expensive specialty medications, which are expected to surpass half of U.S. drug spending by 2022.

To help manage rising costs, the market continued its shift toward value-based care. Healthcare providers, clinicians and pharmacists had to wield an increasing volume of complex data as rules tying government reimbursements to total cost of care kicked into effect,⁴ underscoring the need for interoperability and information exchange between organizations across the country.

Patients, too, sought ways to get the most out of their healthcare dollar, spurred partly by a surge in high-deductible health plans⁵ and partly by expectations set by an ever more connected and convenient consumer environment. The industry fielded patients' demands for more options, more transparency and more portability of healthcare information.

Legislators and regulators had an eye on all of these developments, displaying extraordinary levels of activity and involvement. Now more than ever, what happens in healthcare happens on a national stage.

These changes have complicated decision-making at the point of care and heightened the need for collaboration among pharmacists, physicians, payers and patients. In 2018, the Surescripts Network Alliance™ rose to the challenge by forging stronger connections, deploying new innovations and exchanging an unprecedented volume of actionable intelligence.

This report examines a year's worth of data to track our progress enhancing prescribing, informing care decisions and advancing healthcare across the nation.

Tom Skelton

NETWORK ALLIANCE MORE CONNECTIONS, MORE HIGH-QUALITY DATA

In 2018, we expanded and enhanced our reach among organizations that connect pharmacists, physicians, payers and patients. These organizations make up the Surescripts Network Alliance—and make Surescripts the nation's single most trusted and capable health information network.

The Surescripts Network Alliance connects virtually all electronic health record (EHR) vendors, pharmacy benefit managers (PBMs), pharmacies and clinicians—plus an increasing number of health plans, long-term and post-acute care organizations and specialty pharmacy organizations—with:

1.61 MILLION

healthcare professionals 10% increase in 2018

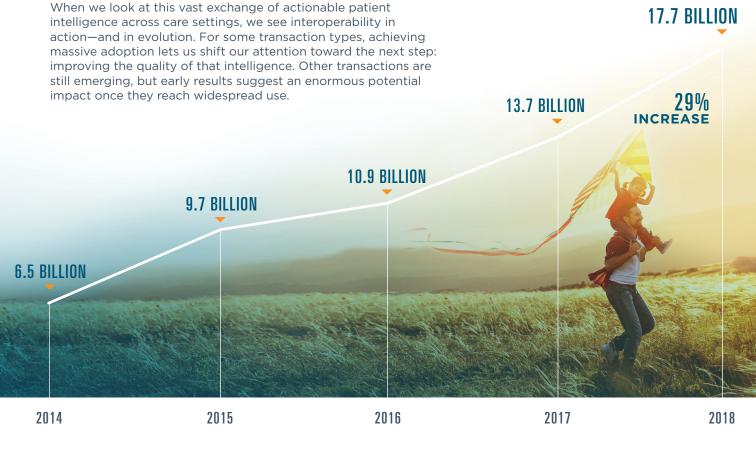
258 MILLION

patients in our master patient index*
(8 million unique patients added in 2018)
Covering 79% of the U.S. population and 93% of insured patients



NETWORK TRANSACTIONS

Surescripts processed 17.7 billion transactions in 2018, a jump of 29% from 2017.



1.91 BILLION

e-prescriptions

1.77 BILLION

medication histories

108 MILLION

links to clinical document sources

31.44 MILLION

clinical direct messages

ENSURING TRUST, RELIABILITY & DATA QUALITY

The rapid growth we saw in 2018 was supported by high-availability operations and advances in the realms of security, data quality and standards development.

In 2018, we achieved:

99.99% NETWORK UPTIME

LESS THAN ONE SECOND AVERAGE RESPONSE TIME FOR AGGREGATED PATIENT DATA

HITRUST CSF CERTIFIED STATUS FOR KEY PLATFORMS, PLACING SURESCRIPTS IN AN ELITE GROUP OF ORGANIZATIONS WORLDWIDE

We also continued to track and celebrate prescription accuracy, building on our Critical Performance Improvement program established in 2016 with input and feedback from across the Network Alliance. All prescriptions processed by Surescripts, except those for compounds and supplies, are analyzed by Surescripts Sentinel®, which identifies opportunities for quality improvement.

Our Quality Index Score (QIS) is used to measure factors that could impact the prescribing process, including prescription accuracy, directory alignment and adoption of appropriate transactions. In 2018, Surescripts improved the accuracy of e-prescription transactions by 14%, meaning physicians and pharmacists spent less time exchanging phone calls and faxes to clarify prescriber intent.

We also recognized five EHR vendors with the 2018 White Coat Award for their achievements in prescription accuracy between August 2017 and August 2018:

2018 WHITE COAT AWARDS

TRAILBLAZER AWARD:

For top achievements in addressing key issues that impact prescription accuracy (including Drug Description, Drug ID, Sig & Potency Unit Code)

HIGHEST ACCURACY AWARD:

For the highest overall QIS

MOST IMPROVED ACCURACY AWARD:

For the largest improvement in QIS

2018 WINNERS

Tier: More than 20,000 users

ALLSCRIPTS/VERADIGM

Trailblazer Award

NEXTGEN HEALTHCARE

Highest Accuracy Award

VIRENCE HEALTH TECHNOLOGIES

Most Improved Accuracy Award - 505% increase

Tier: Up to 20,000 users

ISALUS HEALTHCARE

Trailblazer Award Highest Accuracy Award

MEDENT

Most Improved Accuracy Award - 182% increase

ELEVATING INDUSTRY STANDARDS

In 2018, we convened the Network Alliance to support the industry's transition to the National Council for Prescription Drug Programs SCRIPT Standard v2017071, which has a regulatory effective date of January 1, 2020. The new standard will:

MODERNIZE E-PRESCRIBING AND MEDICATION HISTORY TRANSACTIONS

IMPROVE PATIENT SAFETY AND PRESCRIPTION ACCURACY

MINIMIZE MANUAL PROCESSES THAT REQUIRE CARE PROVIDERS TO STEP OUTSIDE THEIR WORKFLOWS TO EXCHANGE CRITICAL PATIENT INFORMATION

We worked to build consensus around how to leverage the new standard and guide our partners through the migration process by engaging with thousands of participants during:

10 WEBINARS

5 CONFERENCE CALLS

5 INFORMATION SESSIONS AT INDUSTRY EVENTS

OFFSITES

ONE-ON-ONE LEARNING SESSIONS

At the end of 2018, 16 Network Alliance participants had joined our Wave 1 early adopter program and three were certified, including AIS Healthcare, DAW Systems (ScriptSure Cloud) and Kalos, Inc.

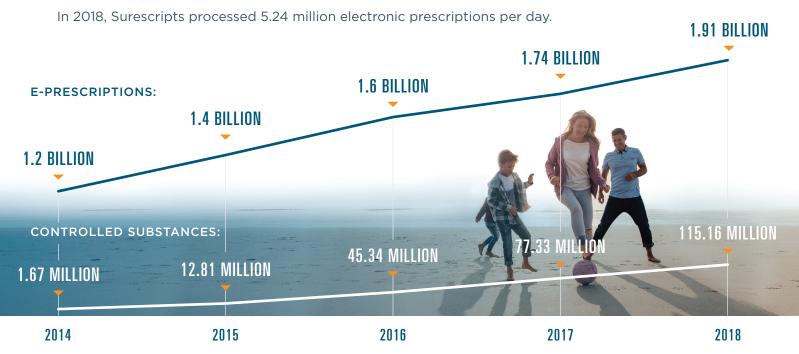
ENHANCE PRESCRIBING SAFER, MORE AFFORDABLE PRESCRIPTIONS

When a prescriber and patient decide on a medication, they hope for a smooth, straightforward path toward treatment. In 2018, we worked to eliminate many of the barriers that stand in their way.

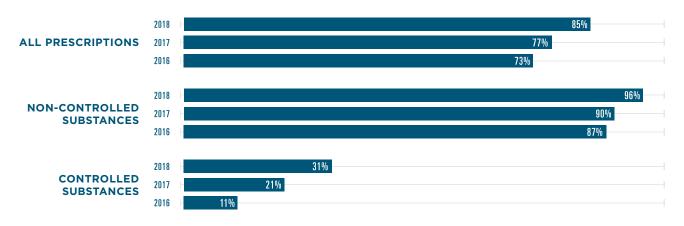
One barrier is unexpected prior authorization requirements, which cause treatment delays according to the vast majority of U.S. physicians⁶ and trigger prescription abandonment nearly 40% of the time.⁷ Another barrier is sticker shock at the pharmacy, where 10% of abandoned prescriptions are left behind due to cost.⁸ Then there are risks that come with relying on paper prescriptions for controlled substances, leaving room for fraud and diversion.

But we're making progress. In 2018, we enhanced prescribing to reduce the delays, unexpected costs and administrative work that waste valuable time and interfere with safe, effective treatment.

E-PRESCRIBING

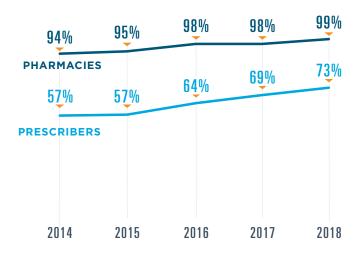


PERCENT OF PRESCRIPTIONS SENT ELECTRONICALLY



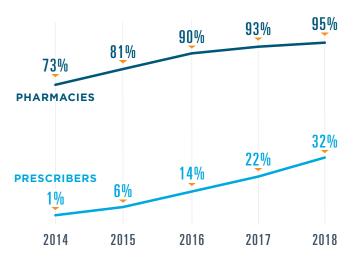
Note: Percentages calculated using prescription data from the National Association of Chain Drug Stores. Surescripts estimates that 84% of e-prescriptions are dispensed.

PERCENT UTILIZING E-PRESCRIBING



The number of prescribers utilizing E-Prescribing increased 7% in 2018.

PERCENT ENABLED FOR E-PRESCRIBING OF CONTROLLED SUBSTANCES (EPCS)



The number of prescribers enabled for EPCS **increased 46% in 2018.**

SPOTLIGHT: CANCELRX

When a prescriber needs to cancel a prescription, time is of the essence. In 2018, the Surescripts Network Alliance vastly increased its use of the CancelRx transaction to resolve prescription accuracy and safety issues within the prescribing workflow before they could impact patients.

TRANSACTIONS:

2017

3.8 MILLION

2018

11.8 MILLION (+210%)

CERTIFIED PRESCRIBERS:

2017

555.000

2018

680,000 (+23%)

CERTIFIED PHARMACIES:

2017

31.000

2018

46,000 (+48%)

ACTIVE PRESCRIBERS:

+122% IN 2018

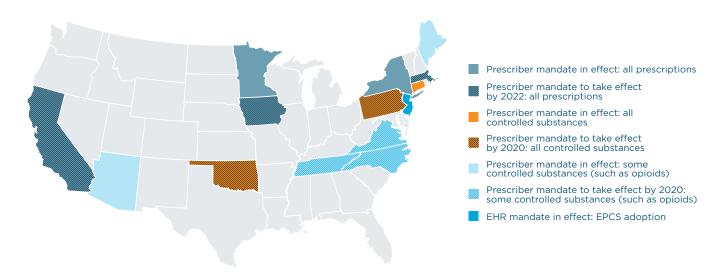
ACTIVE PHARMACIES:

+86% IN 2018

EPCS ACROSS THE NATION

In 2018, state and federal legislators continued to recognize EPCS as an essential tool in combatting the opioid epidemic. Congress passed and President Trump signed into law H.R. 6, the Substance Use-Disorder Prevention That Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act, which requires that controlled substance prescriptions covered under Medicare Part D be transmitted electronically as of January 1, 2021.

Eight states passed their own mandates in 2018, bringing the total number of states with legislation requiring e-prescribing for opioids, controlled substances or all prescriptions to 15. Mandates in Minnesota, New York, Maine and Connecticut had taken effect by January 2018, with the majority of the others set to take effect in 2020.



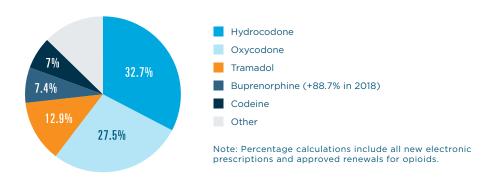
TOP 5 SPECIALTIES USING EPCS



SPOTLIGHT: OPIOIDS

As overall opioid prescribing rates continued to decline across the U.S.,⁹ electronic prescriptions for opioids increased by nearly half in 2018—a big step forward for safety, with more prescribers utilizing this critical tool for opioid prescriptions. A nearly 90% increase in e-prescriptions of buprenorphine shows that clinicians also relied on e-prescribing to help treat opioid dependence and addiction.

In 2018, five opioids accounted for more than 87% of all opioid e-prescriptions:



EPCS STATE RANKINGS

2018 Rank	2017 Rank	State	Pharmacy Enablement	Prescriber Enablement	Controlled Substances Prescribed Electronically*
1	1	New York	98.2%	77.3%	85.0%
2	3	Maine	99.3%	69.3%	78.4%
3	11	Connecticut	98.9%	59.6%	69.1%
4	2	North Dakota	99.4%	50.7%	58.7%
5	4	South Dakota	97.2%	40.5%	43.4%
6	6	Nebraska	95.4%	46.0%	38.6%
7	7	Wisconsin	97.5%	35.6%	44.2%
8	5	Minnesota	96.1%	32.7%	44.9%
9	10	North Carolina	97.7%	41.0%	31.4%
10	19	Vermont	96.4%	36.6%	37.1%
11	22	Arizona	98.6%	47.2%	23.6%
12	8	Utah	98.2%	39.8%	31.4%
13	9	New Hampshire	99.6%	29.8%	30.4%
14	14	Michigan	97.6%	29.8%	27.9%
	15				
15 16	13	Texas Delaware	95.8%	28.0%	30.9% 35.1%
	16	Indiana		101111	
17			98.2%	28.8%	24.0%
18	25	Colorado	97.9%	31.1%	20.8%
19	12	Rhode Island	98.9%	30.4%	20.7%
20	17	California	93.8%	28.2%	26.8%
21	18	Oregon	98.1%	27.7%	19.5%
22	23	Maryland	97.2%	21.7%	25.6%
23	28	Pennsylvania	97.3%	24.1%	20.5%
24	21	Ohio	96.4%	22.8%	21.6%
25	40	lowa	98.1%	26.4%	16.2%
26	20	Massachusetts	98.0%	18.9%	24.5%
27	34	District of Columbia	92.3%	25.2%	20.6%
28	42	Montana	95.9%	20.2%	22.8%
29	26	Louisiana	95.6%	25.1%	17.5%
30	24	Missouri	97.6%	18.8%	22.7%
31	35	Kentucky	97.9%	17.7%	23.4%
32	39	Illinois	95.1%	24.1%	18.4%
33	27	Wyoming	99.1%	17.2%	21.9%
34	29	Arkansas	97.2%	22.7%	16.2%
35	30	Idaho	98.6%	18.1%	19.1%
36	31	Oklahoma	98.4%	18.5%	18.1%
37	32	Kansas	98.9%	16.2%	19.2%
38	37	South Carolina	96.4%	19.6%	16.8%
39	33	Tennessee	96.6%	21.9%	13.7%
40	38	New Mexico	97.2%	17.9%	14.8%
41	36	New Jersey	97.6%	15.5%	16.9%
42	43	Virginia	96.2%	18.7%	13.2%
43	44	Washington	95.9%	16.1%	15.9%
44	41	Alaska	94.1%	16.7%	14.4%
45	46	Georgia	96.1%	11.1%	12.1%
46	47	Florida	92.6%	13.3%	12.7%
47	45	Nevada	96.0%	13.3%	8.9%
48	48	West Virginia	96.5%	10.3%	10.4%
49	49	Alabama	96.4%	9.5%	10.0%
50	50	Mississippi	90.8%	10.9%	10.1%
51	51	Hawaii	88.2%	4.8%	9.1%
52	52	Virgin Islands	33.3%	11.2%	0.0%
53	53	Puerto Rico	36.1%	1.1%	0.0%

HIGHLIGHTS

State legislation mandating the use of electronic prescribing is having a measurable impact on provider enablement.

New York:

New York continued to lead the nation for the fourth year in a row thanks to its iSTOP law mandating e-prescribing for all prescriptions, which took effect in March 2016. In 2018, progress continued with 77.3% of prescribers enabled for EPCS and 98.2% of pharmacies enabled for EPCS.

Connecticut:

Connecticut's mandate took effect in January 2018. prompting an impressive jump of 8 places above its 2017 ranking. Now 59.6% of prescribers and 98.9% of pharmacies are enabled for EPCS in Connecticut.

Arizona:

Ahead of an e-prescribing mandate for opioids that took effect in January 2019 (and was subsequently delayed until January 2020), Arizona jumped from 22nd to 11th place in 2018—the largest rise in the country. At the end of the year, 47.2% of its prescribers and 98.6% of its pharmacies were enabled for EPCS.

Vermont:

In 2018, Vermont ascended from 19th place to 10th. While Vermont doesn't have an EPCS mandate of its own, its proximity to three states that do (Connecticut, Maine and New York) and one state that will in 2020 (Massachusetts) may have served as a catalyst for its rise.

^{*}Calculations only include filled prescriptions, based on a 16.16% return-to-stock rate.10

ELIGIBILITY & FORMULARY

The foundation for solutions including Real-Time Prescription Benefit and Electronic Prior Authorization. Eligibility & Formulary gives providers the ability to check a patient's benefits. In 2018, it informed nearly every physician office visit and hospital outpatient visit in the nation.11

2.7 BILLION

Eligibility & Formulary responses

REAL-TIME PRESCRIPTION BENEFIT

In 2018, the momentum behind prescription price transparency was stronger than ever, led by high demand from the nation's prescribers. When we commissioned a survey of more than 500 U.S. healthcare professionals, 78% said they considered patients' out-of-pocket costs very important and 69% considered information on lowercost alternatives very important.12

Surescripts met that need with Real-Time Prescription Benefit, which displays patient-specific, formulary-based out-of-pocket cost information for the prescriber's choice of drug and the patient's choice of pharmacy-along with up to five therapeutic alternatives—in real time within the EHR workflow.

1.338% INCREASE

in provider adoption

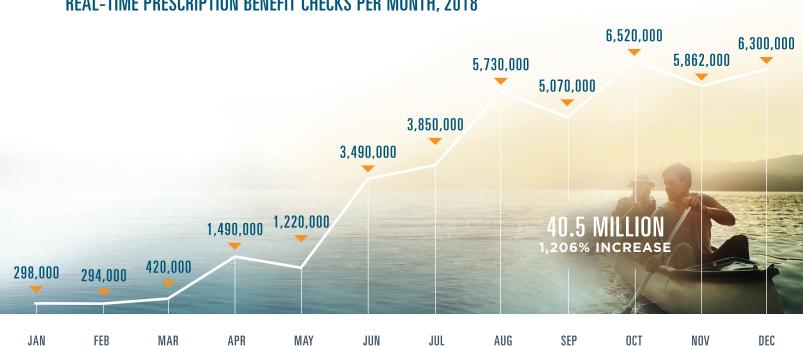
76% OF U.S. PATIENTS COVERED

by data supplied directly by PBMs

80% OF U.S. PRESCRIBERS SERVED

by contracted EHRs (up from 58% in 2017)

REAL-TIME PRESCRIPTION BENEFIT CHECKS PER MONTH, 2018



IMPACT OF REAL-TIME PRESCRIPTION BENEFIT

Data we collected throughout 2018 highlighted the enormous time and cost savings possible with Real-Time Prescription Benefit:

28% change rate to avoid prior authorization: When prescribing a medication requiring a prior authorization and presented an alternative without a prior authorization, prescribers using Real-Time Prescription Benefit switched the drug 28% of the time.

>158,000 hours of potential wait time eliminated per month: Based on average prior authorization wait times,¹³ avoiding prior authorizations via Real-Time Prescription Benefit helped health systems collectively improve time to treatment by hundreds of thousands of hours.

Up to \$8,032 in patient savings per prescription: One patient in 2018 saved as much as \$8,032 in out-of-pocket costs on a single prescription fill thanks to Real-Time Prescription Benefit.

AVERAGE SAVINGS PER PRESCRIPTION

WHEN A LOWER-COST ALTERNATIVE IS CHOSEN

Note: Listed in order of volume.

BY SPECIALTY		BY THERAPEUTIC CLASS	
FAMILY PRACTICE	\$57	ANTIFUNGALS (FOR SYSTEMIC USE)	\$67
INTERNAL MEDICINE	\$47	ANTIDEPRESSANTS	\$105
OBSTETRICS AND GYNECOLOGY	\$69	LIPID MODIFYING AGENTS	\$26
PSYCHIATRY	\$228	BLOOD GLUCOSE LOWERING MEDICATION (EXCLUDING INSULIN)	\$88
CARDIOLOGY	\$21	BETA BLOCKERS	\$11

Note: Classification based on pharmacologic class.

ELECTRONIC PRIOR AUTHORIZATION

In addition to displaying cost information, Real-Time Prescription Benefit flags medications that require prior authorization. If a prescriber doesn't choose an alternative medication, and they have access to Electronic Prior Authorization, they can move seamlessly into an integrated and dramatically faster prior authorization process.

128% INCREASE

in provider adoption

172% INCREASE

in transactions in all 50 states and D.C., plus Puerto Rico, Guam and overseas military installations

89% OF U.S. PATIENTS

covered by data supplied directly from PBMs and health plans

77% OF U.S. PRESCRIBERS served by contracted EHRs

TOP 5 SPECIALTIES USING ELECTRONIC PRIOR AUTHORIZATION











INFORM CARE DECISIONS EASIER ACCESS TO CRITICAL PATIENT INSIGHTS

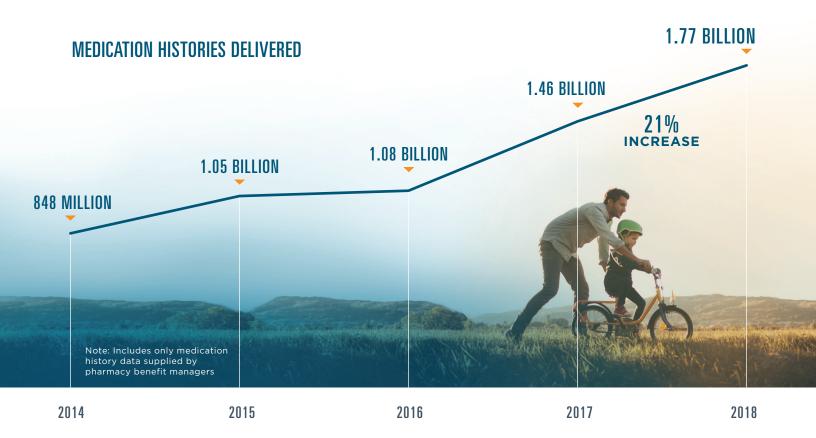
Lack of timely insight into the other care and medications patients are (or aren't) receiving is both dangerous and costly. For instance, patients whose outpatient care teams do not receive a timely hospital discharge summary are 10 times likelier to return to the hospital. Beyond the health risks of failing to take medication as prescribed, non-adherence has been estimated to produce up to \$300 billion in avoidable costs per year in the U.S. 15

The Surescripts Network Alliance is addressing these issues by delivering patient insights to critical points in care, backed by a long history of collaboration around interoperability. In 2018, we continued to engage with the industry as founding members of DirectTrust and Carequality, whose governance framework for interoperability has been implemented nationwide.

In 2018, we informed care decisions to help clinicians see beyond the exam room, connecting them to patient medication history, clinical records and other care providers across the country.

MEDICATION HISTORY

In 2018, Surescripts Medication History solutions continued to give care teams a more complete and accurate picture of their patients' medications. Medication History for Reconciliation in particular was enriched by the addition of several significant new PBM and pharmacy data sources, making the reconciliation process even more efficient.



90%

of U.S. patients represented (up from 82% in 2017)

>90%

of EHRs connected

1.9 MILLION

medication histories for populations delivered to health systems, hospitals and accountable care organizations to help manage cost-effective care (+436% in 2018)

RECORD LOCATOR & EXCHANGE

Record Locator & Exchange helped bring interoperability to life for thousands of healthcare organizations in 2018, giving clinicians access to nationwide health information exchange through a single connection at the point of care.

Used by >106,000 clinicians (+105% in 2018) representing 4,680 active healthcare organizations (+50% in 2018) across all 50 states and D.C.

107 MILLION

links to clinical document sources (+586% in 2018)

99 MILLION

care location summaries exchanged (+52% in 2018)

Record Locator & Exchange benefited clinicians in a number of areas in 2018. Here are some of the stories we heard from our users.

PRIMARY CARE:

After a primary care physician used Record Locator & Exchange to access a patient's previous CT scan results, she increased the urgency of treatment and referred her patient to a lung cancer specialist.

QUALITY OF CARE:

A primary care provider used Record Locator & Exchange to identify specialists who had provided care to patients with chronic diseases and ensure they received recommended screening tests, such as retinal exams for diabetes patients.

EMERGENCY CARE:

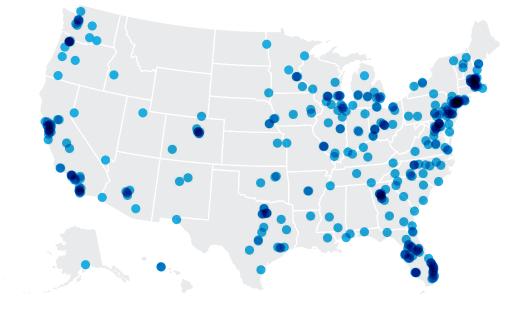
A triaging ER physician used Record Locator & Exchange to learn of his patient's serious cardiovascular disease and ordered immediate transfer to the university hospital for aggressive treatment.

CARE COORDINATION:

When a transplant coordination team used Record Locator & Exchange to review records for a new patient with lupus, they learned she had previously been diagnosed with a blood clot in her heart and added blood-thinning medication to her treatment plan.

CASE STUDY: YALE NEW HAVEN HEALTH

In 2018, Yale New Haven Health used Record Locator & Exchange to locate clinical documents for their patients from well beyond their home base in Connecticut, including 49 states, D.C. and Puerto Rico.



Locations where documents were found. Darker dots indicate more records located.

CLINICAL DIRECT MESSAGING

Built using the Direct protocol, Clinical Direct Messaging connects clinicians, pharmacists and other healthcare professionals with secure, HIPAA-compliant exchange of protected health information. In 2018, hundreds of thousands of users relied on Clinical Direct Messaging to improve transitions of care, send immunization notifications, coordinate medication management efforts and achieve government incentives requiring the use of secure electronic messaging from within the EHR.

596,000

users (+13% in 2018) across all 50 states and D.C., including nearly 24,000 pharmacies

CLINICAL DIRECT MESSAGES TRANSMITTED

31.44 MILLION



ADVANCING HEALTHCARE WITH ACTIONABLE INTELLIGENCE

Every year, our National Progress Report helps quantify the impact we've made on U.S. healthcare and illuminates opportunities for further growth. The wealth of actionable intelligence available across the Surescripts Network Alliance uniquely equips us to advance healthcare through peer-reviewed research. In 2018, we concentrated our research efforts on two areas in particular:

DISASTER RESPONSE:

Published in *Health Affairs*, "Access to E-Prescriptions and Related Technologies Before and After Hurricanes Harvey, Irma, and Maria" examined E-Prescribing and Medication History transactions in areas affected by recent major hurricanes to assess how health IT infrastructure is used during natural disasters and how quickly it bounces back after a disruption.

Surescripts researchers concluded that when disaster strikes, "access to e-prescribing and medication histories via EHRs could allow for the quicker recovery of essential medical services—but only with robust infrastructure in place to mitigate the impact of catastrophes and essential emergency preparedness policies and collaborative agreements between critical stakeholders."¹⁶

PATIENT SAFETY:

What happens when prescribers decide to stop or change a patient's medication? Sometimes, they try to convey the message within a new e-prescription transaction, which has the potential to cause confusion and even harm.

To find out how often that occurs, Surescripts researchers partnered with informaticists from Yale New Haven Health, Connecticut Children's Medical Center and the University of Connecticut to analyze 1.4 million NewRx transactions in a paper published in the *Journal of the American Medical Informatics Association*. "While the incidence of prescribers using the NewRx to transmit cancellation instructions was low," they wrote, "their transmission in NewRx fields not intended to accommodate such information can produce significant potential patient safety concerns, such as duplicate or inaccurate therapies." The study found that expanding use of the CancelRx transaction—designed to let prescribers clearly and promptly cancel a prescription—could prevent nearly 10 million potential patient safety risks per year.¹⁷

Backed by data and united with the Surescripts Network Alliance, we look forward to the discoveries and advances we'll make together in the year ahead.

"Together with participants in the Surescripts Network Alliance, we made significant progress in 2018, leveraging the power of interoperability to help lower costs and improve care. In 2019, we will continue to expand the reach of the actionable patient intelligence we deliver at the point of care, helping transform interactions among clinicians, pharmacists and patients to continually improve the patient experience, drive better care outcomes and reduce costs."

- Tom Skelton, Chief Executive Officer

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Our purpose is to serve the nation with the single most trusted and capable health information network, built to increase patient safety, lower costs and ensure quality care. Since 2001, Surescripts has led the movement to turn data into actionable intelligence and convened network participants to enhance e-prescribing, inform care decisions and advance healthcare. Visit us at surescripts.com and follow us at twitter.com/surescripts.