

FINAL REPORT EXECUTIVE SUMMARY – CANCELRX WORKGROUP – SUBMITTED TO THE HEALTH INFORMATION TECHNOLOGY OFFICER

February 1, 2019

Report prepared for:

*The Office of
Health
Strategy*

The CancelRx Executive Committee:

Thomas P. Agresta, MD, MBI

Professor and Director of Medical Informatics Family Medicine at
University of Connecticut Health Center

Director of Clinical Informatics - Center for Quantitative Medicine

Section Leader for Informatics Connecticut Institute for Primary Care
Innovation

Nitu Kashyap, MD

Assistant Professor of Medicine & Executive Director of Clinical
Informatics at Yale

Sudeep Bansal, MD, MS

Primary Care Physician, Diplomate in Clinical Informatics

Sean Jeffery, PharmD, CGP, FASCP, FNAP, AGSF

UConn Clinical Professor, Pharmacy

Hartford Healthcare Group: Director of Clinical Pharmacy Services at
Integrated Care Partners

UConn
SCHOOL OF MEDICINE

Prepared by:

Thomas P. Agresta, MD, MBI, UConn School of Medicine

Katherine M. Hayden, MPH, UConn Health


OHS
CONNECTICUT
Office of Health Strategy

CancelRx Executive Summary

Introduction:

At the American Medical Informatics Association (AMIA) meeting in Washington DC in November 2017, a group of clinical informatics leaders (physicians and pharmacists) from within Connecticut convened to discuss how they productively engage in Health Information Exchange (HIE) planning and implementation activities in collaboration with the emerging plans for state-wide HIE services and the priority use cases that had recently been approved by the Health Information Technology (HIT) Advisory Council, a legislatively approved body advising the State Health Information Technology Officer (HITO) of Connecticut.

As the various use cases were discussed, it became clear that medication reconciliation was a major pain point and identified patient safety issue for all of these clinical leaders within their healthcare organizations. In fact, a single challenge was introduced as an example that should be solvable, but remained elusive: the ability for a clinician to electronically cancel via their own Electronic Health Record (EHR) a prescription that was no longer appropriate for a patient to take. This, despite the fact that they are required by law to send prescriptions electronically for all controlled substances coupled with the reality that most prescriptions are sent electronically in CT and that all Meaningful Use Certified EHR's at the 2015 standard were required to have this function which is identified as CancelRx and has been supported by a data transmission standard and the major eprescribing software data transmission hubs. The clinicians noted that all in the room were currently unable to use this safety and efficiency feature of their certified EHR's.

After discussions amongst stakeholders and with the permission of the HITO and the HIT Advisory Council, a multi-stakeholder group led by a UConn Health Clinical-Informatician, was organically formed to gather further information about this issue, evaluate potential solutions, pilot those solutions, share their findings with each other and inform the HIT Advisory Council and HITO of their findings and how that could advance the Medication Reconciliation Use Case for HIE.

Background Information and Problem Statement:

While medications can be beneficial for the health of an individual, they also pose potential health risks through side effects, adverse drug-drug or drug-disease interactions or inadvertent overdose due to improper dosing or over-accumulation of active ingredients. These risks are increased when a medication that is intended to be discontinued, is taken inadvertently. This unfortunately occurs frequently due to several issues: 1) the patient continues to take medication they have at home 2) the pharmacy refills a medication that already exists within their Pharmacy Information System (PIS) that had previously been prescribed by a clinician but ultimately discontinued or changed, 3) the patient receives medications from more than one pharmacy that are duplicates (brand name and generic of same drug) or overlapping in effect (drugs in the same pharmaceutical class or for the same indications such as hypertension) 4) the clinician inadvertently responds to an electronic refill request that the pharmacy sends on a previously discontinued medication.

In addition to the potential for patient harm, there can be significant costs associated with having a medication filled when not desired by a clinician, including: 1) the actual cost of the medication to patient and insurer 2) the costs of any side effects or adverse events that may result in lost work or school time and 3) costs associated with avoidable physician visits, ER visits and hospitalizations due to adverse side effects or drug-drug interactions.

The ability to cancel a prescription medication electronically has existed from a technical perspective for several years through a technical messaging standard (SCRIPT Standard 10.6) developed by the National Council for Prescription Drug Programs (NCPDP) and adopted by the Office of the National Coordinator for Health IT (ONC).¹ NCPDP SCRIPT Version 2017071 is available to test and ensure correct implementation of this version ahead of the January 1, 2020, implementation timeline. In fact, this has been a required standard for incorporation, but not use, into 2015 Certified EHR systems. Healthcare organizations have been required to use 2015 Certified EHR's to meet the Meaningful Use 3 objectives to participate in federal and state healthcare quality programs. This certified technology is in use by almost all of the large and medium sized hospital and ambulatory healthcare organizations in Connecticut. Yet there remains no requirement or incentive to incorporate this standard into Pharmacy Information Systems and adoption had been slow at both the pharmacy and provider side as of the beginning of 2018. (See SureScripts data in Appendix)

Using the CancelRx function is part of a solution to reduce polypharmacy and reconcile medication lists to achieve "Med Rec." CancelRx is a message sent through the ePrescribing Transaction Hub (SureScripts vendor tool or PrescribersConnection) from prescriber to pharmacist if a) If the prescriber wants to correct a mistake on a prescription by cancelling and then re-ordering or b) If the prescriber wants to discontinue therapy of a prescription that is still active (i.e. there are refills left on the prescription at the pharmacy).²

SureScripts data from January 2018 shows that within the state of CT, only 20.1% of prescribers and 28.6% of pharmacies were certified and enabled to use CancelRx. Increasing the adoption and use of CancelRx could help a variety of stakeholders improve care and reduce cost/waste.³

See Appendix 1-3 for SureScripts Tables³⁻⁴

Overview/Approach:

In January 2018, a CancelRx workgroup was formed in CT to work on medication reconciliation as aligned with state efforts and the determination of Med Rec as a priority Use Case identified by the Health Information Exchange. The goals of this group were to define the problem clearly, outline some potential solutions, participate in some pilot projects and inform each other of progress and develop a set of recommendations that might be helpful to the HITO and the HIT Advisory Committee. Collectively, the CancelRx Workgroup decided to take a 3-pronged approach. The three working subgroups formed were 1) Workflow 2) Return on Investment for each stakeholder and 3) Technical Standards.

In the summer of 2018, a state-level legislatively approved Office of Health Strategy (OHS) Medication Reconciliation and PolyPharmacy (MRP) Workgroup was formed to work on the larger issues of Medication Reconciliation (Med Rec). CancelRx was considered to be a portion of what is required for Med Rec and so it was decided to end the separate group and pass on what was learned in these 3 working CancelRx subgroups.

Methods/Process:

In January 2018, the first of these multi-stakeholder groups was convened by a physician- informatician at University of Connecticut (UConn) Health to create recommendations and propose pilot solutions for sharing & dissemination across CT for continued work. There were 11 CancelRx meetings held in total from January- September 2018. Each meeting was in-person but also had a call-in option where meeting materials were shared for feedback and review. This allowed for the workgroups to engage

members across the country. This was especially important to get vendor participants with the expertise necessary to participate and provide feedback on their products and services to best understand the market and current solutions.

The Convener of these workgroups reached out to potential members who had the expertise and were able to chair the meetings in-person in the Greater Hartford Area in CT. With the support of the State of CT HIE Project Coordinator for UConn Health, meetings convened and these workgroups constructed both the Workflow and Technical Diagrams, as well as an ROI Matrix of Pros and Cons of CancelRx adoption.

The CancelRx Workflow Workgroup captured CancelRx transaction information that was put into graphical format, in a Workflow Diagram using Viseo. This shows the process within organizations. The Tech Workgroup followed a lot of the same processes but instead created a Technical Diagram using Viseo focused on the electronic transaction within systems. And from a business logic perspective, a Return on Investment (ROI) Workgroup was formed to identify stakeholder organization's individual and group ROIs. Due to the detailed nature of these documents they are not included in this executive summary but are available upon request.

Summary of the Key Findings:

The group concluded that there were several key issues to consider:

- 1) There was a significant opportunity to enhance patient safety if the CancelRx standard was adopted in a manner that was workflow-friendly for prescribers, pharmacists and patients.
 - a. This includes a reduction in adverse drug reactions, drug-drug interactions and drug-condition interactions.
 - b. This is balanced by a small but real risk of inadvertently de-prescribing an intended medication.
- 2) There were a number of stakeholders who would benefit financially from a reduction in inadvertent prescribing that would occur.
 - a. The patient and family would have reduced medication costs and costs associated with physician visits, ER visits and hospitalizations from adverse drug events.
 - b. The insurer and payer of healthcare would have reduced costs spent on medications that were not intended for consumption and for reduced costs associated with adverse events.
 - c. The pharmacy would have reduced costs to restock medications not utilized and time spent calling prescribers to clarify intended discontinuation of medications.
 - d. The prescribing physician and their organizations would have reduced time and effort spent calling pharmacies to verify a discontinuation event.
- 3) There are a number of challenges that need to be overcome for widespread adoption and effective use to occur.
 - a. Many CT pharmacies (<50%) did not have pharmacy information systems that had enabled CancelRx as of the time of the group meetings. There may be significant costs for non-chain pharmacies to adopt or upgrade PIS to accept CancelRx.
 - b. Fewer CT physician offices had enabled CancelRx (20%) as of early 2018.³
 - c. Enabling the use of the standard (i.e. enabling it within the Health Information System) does not equate to actually using to de-prescribe a medication. There are often several additional steps that must be taken including education of providers, setting up the EHR / PIS to correctly handle the messages required.

- d. Despite having an appropriate SCRIPT standard for data transmission and an ePrescribing hub (Surescripts and PrescribersConnection), this is not widely adopted.
- e. When enabled in an EHR, CancelRx workflow often created confusing and duplicative messages within the EHR, especially when pharmacies were not enabled, prompting some organizations to disable this feature.
- f. There was a general lack of knowledge across a broad stakeholder group about the facts around the CancelRx standard and how it functions within an actual health eco-system, including from clinicians, pharmacists, EHR vendors, pharmacists, pharmacy chain leaders, staff from skilled nursing facilities, IT staff at healthcare organizations and even the ePrescribing hub vendors.
- g. Some prescribers who would still benefit from adoption of this standard, work in settings where Certified EHR technology is not in routine use due to the location of care, such as Skilled Nursing Facilities, Visiting Nurse etc.

Recommendations:

1. Conduct a formal assessment of the Return on Investment for the CancelRx standard and other medication reconciliation recommendations to support the widespread adoption by pharmacies.
2. Conduct a formal assessment of the legislative / policy considerations associated with a mandate to require participation in the CancelRx standard by CT pharmacies and practitioners.
3. Explore the possibility of utilizing HIE funding to support onboarding, technical assistance, education, training, and implementation for pharmacies and practitioners.
4. Standardize pharmacy CancelRx workflows through technical assistance support.
5. Launch a statewide public health campaign to raise awareness for medication safety, CancelRx, medication reconciliation, polypharmacy, election prescriptions for controlled substances, etc.
6. Develop a business case for the sustainability of CancelRx that is endorsed and supported by the state's HIE effort and associated stakeholders (e.g. payers conducting cost containment analysis).
7. Develop incentive program to support the adoption and use of the CancelRx standard and conduct pilot programs to determine ROI for each organization.
8. Conduct analysis of funding opportunities available to help address polypharmacy and reduce opioid misuse.
9. Partner with the Connecticut PDMP, the Substance Abuse and Mental Health Services Administration (SAMHSA), and other organizations / stakeholders to determine how CancelRx can be supported by, or provide support to, relevant program efforts.

Conclusion:

The CancelRx workgroup was an organically organized but very productive multi-stakeholder group that gained a great deal of insight into a socio-technical problem facing patients, family members, providers and pharmacists. The energy shown by its dedicated volunteer members clearly indicates the importance of addressing the challenges related to effectively and efficiently discontinuing a medication through a reliable electronic means.

The lessons learned in this process have already born fruit with regards to the collaborations formed between the various organizations around a common purpose of increasing medication safety and improving healthcare costs. The recommendations made from this ad-hoc group should serve as the basis for more robust recommendations, actions and funding to bring about effective solutions.

Final Report Executive Summary – CancelRx workgroup

The leadership of this group would like to thank the members for their dedication and time. They also would like to thank the Office of Health Strategy in CT for its support and the legislature for establishing the Medication and Polypharmacy Workgroup which will likely enhance and create a path forward for executing on many of the recommendations made.

CancelRx Workgroup Members:

Name	Affiliation & Position	Workflow Member	Return on Investment Member	Technical Member
Thomas P. Agresta, MD, MBI	Professor of Family Medicine- UConn & Clinician-informatician working on the State of CT Health Information Exchange	Convener	Convener	Convener
Nitu Kashyap, MD	Assistant Professor of Medicine & Executive Director of Clinical Informatics at Yale	Leader	X	X
Sudeep Bansal, MD, MS	Primary Care Physician, Diplomate in Clinical Informatics	X	Leader	
Sean Jeffery, Pharm D, CGP, FASCP, FNAP, AGSF	UConn Clinical Professor, Pharmacy; HHC Group: Director of Clinical Pharmacy Services at Integrated Care Partners	X	X	Leader
Kate Hayden, MPH	UConn HIE Coordinator	Coordinator	Coordinator	Coordinator
MJ McMullen	Principal Business Advisor, SureScripts	X	X	X
Roderick Marriott, Pharm D	Director, CT Drug Control Division- Department of Consumer Protection	X	X	X
Anne Van Haaren, Pharm D	CVS Health: Director, Health Systems Alliance, RI	X	X	X
Jennifer Richmond, LCSW, CHC	CT OHS Senior HIT PMO Sr. Program Manager – HIE Services	X	X	X
Maria Summa, Pharm D, BCPS	Chair and Associate Professor, University of Saint Joseph School of Pharmacy, Clinical Pharmacist, Family Medicine Center at Asylum Hill	X	X	X
Allan Hackney, CISM, CRISC	CT Health Information Technology Officer (HITO)	X	X	

Final Report Executive Summary – CancelRx workgroup

Jake Star, MIS	Chief Information Officer of VNA Community Healthcare and Health IT Advisory Council member	X	X	
Mary Higgins-Chen, MD, MPH	PGY-1 resident, Yale Primary Care Residency Program	X	X	
Marie Smith, Pharm D	Assistant Dean for Practice & Public Policy Partnerships & Dr. Henry A. Palmer Endowed Professor of Community Pharmacy Practice-UConn	X	X	
Jennifer Miglus, MLS	UConn Health medical library-Information Services Librarian & HMS Librarian	X	X	
Stacy Ward-Charlerie, PharmD	Pharmacist Data Manager, Critical Performance Improvement	X		X
Angela Giarratano, PharmD	Pharmacy Resident at Hartford Hospital (Sean Jeffery's student)	X		
Lauren Barillari	Pharmacy student (Sean Jeffery's student)	X		
Ken Whittemore, Jr. R.Ph., MBA	VP, Professional & Regulatory Affairs- Surescripts LLC	X		
Amy Justice MD, PhD	Professor of Medicine (General Medicine) and of Public Health (Health Policy)	X		
Tom Turbiak, MD	CMIO of Trinity Health NE	X		
Erika Vuernick, PharmD	Post-Doctoral Fellow (Henry A. Palmer Fellowship in Pharmacy Practice Transformation)	X		
Stephanie Ledoux	CVS Caremark Corporation: Director, Health System Contracting at CVS Caremark Corporation, RI	X		
Alejandro Gonzalez-Restrepo, MD, MBI	St. Francis psychiatrist with informatics degree	X		
Stephen Atlas, MD	Clinician Educator, Yale Primary Care Residency Program		X	

Final Report Executive Summary – CancelRx workgroup

Margherita Giuliano, RPh	The Connecticut Pharmacy Service Corporation, CPA Executive Vice President		X	
Kimberly Henderson, MD, JD	Medical director for the Health Systems Alliance at CVS Health and regional medical director for MinuteClinic		X	
Christopher Merrick	Pharmacy student		X	
Teresa Strickland	Technical Analyst/Model Facilitator-Standards Development, NCPDP			X
Erika Tillier	Supervisor, Rx Customer Care at CVS Corporation			X
Erika Vuernick, PharmD	Post-Doctoral Fellow (Henry A. Palmer Fellowship in Pharmacy Practice Transformation)			X
Samantha Ramberg	Senior Business Analyst, Surescripts			X
Cindy Maclaren	Lead Systems Analyst at Cleveland Clinic			X
Sonya Oetting	Director of Network Services & Partner Interfaces at PrescribersConnection, LLC			X
Jerry Krupa	Dir Product Management, Allscripts			X
Scott Bonczek PharmD, Rph, MSHS-HCQ	ITS Quality & Regulatory Applications Analyst, Hartford HealthCare			X
Charlie Oltman	President, NCPDP Foundation			X
Mike Menkhaus	Pro Rx Consulting-SME for ePrescribing, CS Reporting and PDMP Utilization			X
Kori Eastman	Business Analyst, SureScripts			X
Betsy Thornquist	VP and CIO ProHealth Physicians, Inc.			X
Robert Wenick, MD	VP of Population Health for ProHealth Physicians			X
Shelly Spiro	Executive Director at Pharmacy HIT Collaborative			X

Final Report Executive Summary – CancelRx workgroup

Tatiana Cole	Senior Integration Product Owner, ePrescribing and Regulatory at PointClickCare			X
Leann Lewis	Pharmacy vendor			X
Cameron Szychlinski	Interface Analyst at Epic			X
Tim Stollendorf	Epic Integration Engineer/Interface Analyst			X
Suzanne Florczyk, Pharm D	ProHealth Physicians Clinical Pharmacist OptumCare Network of CT – Medical Management			X
Jim Green, Pharm D	SureScripts Director, Clinical Quality, Pharmacist			X
Tyler Power	Pharmacy student			X
Jason Brasfield	VP Sales & Marketing at PrescribersConnection			X
Terri Brengman	SureScripts Product Analyst			X

References:

1. *National Council for Prescription Drug Programs: SCRIPT IMPLEMENTATION RECOMMENDATIONS* (Version 1.46). (2018). Scottsdale, AZ: National Council for Prescription Drug Programs. Accessed at <http://www.ncdp.org/NCPDP/media/pdf/SCRIPT-Implementation-Recommendations.pdf>.
2. SureScripts. (2016) *CancelRx FAQs* [PDF file]. Retrieved from <https://surescripts.com/docs/default-source/PressRelease-Library/cancelrx-faqs.pdf>.
3. SureScripts. *CT Cancel Enablement Summary by Metropolitan Statistical Area (MSA)*. January 2018.
4. Ward-Charlerie, S., Agresta, T, Whittenmore, K. (2018). NCPDP/HIMSS Town Hall Webinar Series Part 1: Perfecting ePrescribing [PowerPoint].

Appendix:

CT CANCEL ENABLEMENT BY MSA

MSA Name	NewRx	Total Active Prescribers	Total Cancel Enabled Prescribers	% Cancel Enabled Prescribers	Active Pharmacies	Cancel Enabled Pharmacies	% Cancel Enabled Pharmacies	% of Pharmacy NewRx Cancel Enabled
Hartford	654,274	6,803	1,684	24.8 %	275	88	32.0 %	53.6 %
New Haven-Meriden	342,586	3,939	453	11.5 %	119	30	25.2 %	38.7 %
Bridgeport	250,796	2,072	441	21.3 %	94	25	26.6 %	42.2 %
Stamford-Norwalk	163,631	1,692	239	14.1 %	72	26	36.1 %	56.3 %
New London-Norwich, CT-RI	141,783	1,006	199	19.8 %	69	17	24.6 %	41.3 %
Waterbury	123,966	1,050	239	22.8 %	59	12	20.3 %	40.3 %
Danbury	108,097	1,046	258	24.7 %	38	14	36.8 %	53.6 %
	84,209	700	171	24.4 %	54	11	20.4 %	32.3 %
Worcester, MA-CT	7	2	1	50.0 %				
Total	1,869,349	18,310	3,685	20.1 %	780	223	28.6 %	46.5 %

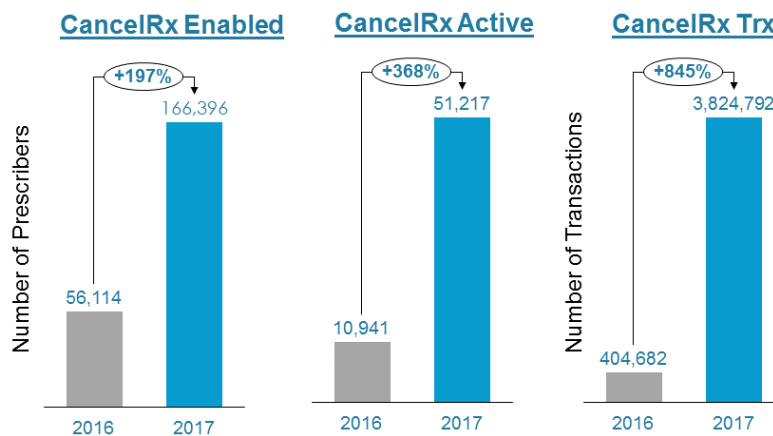
- A blank MSA indicates a group of zip codes that don't fall into a broader MSA
- MSA is from the perspective of where the prescriber is located
- % of Pharmacy NewRx Cancel Enabled looks at how many NewRx's were received by the pharmacy that is enabled for Cancel
 - It is a better indicator of the market share of pharmacies that can receive the transaction
- Data is from Jan 2018

Copyright © 2017 by Surescripts, LLC. All rights reserved.



3

While CancelRx enabled prescribers increased 197% and transactions increased 845%, 69% of enabled prescribers are still not currently active.



4

85% of CancelRx enabled pharmacies received a transaction in 2017.

