Organization – The Bay Area Transformation Partnership (University of Maryland Baltimore Washington Medical Center and Anne Arundel Medical Center)

Solution Title - Shared Care Alerts: Reducing Avoidable Utilization and Improving Care Coordination and Outcomes Across the Continuum of Care

Background

In 2016, HSCRC released an RFP and associated 'Regional Partnership Transformation Planning' grant, focused on bringing hospitals and community partners together to reduce avoidable utilization, improve care and care coordination and support services for patients who were high utilizers of hospital and ED services. The University of Maryland Baltimore Washington Medical Center (UM BWMC) and Anne Arundel Medical Center (AAMC) joined together to form the Bay Area Transformation Partnership (BATP) along with several community organizations. The planning grant was used to study cross-organizational, multi-disciplinary gaps in data and communications, and to develop solutions to solve them. The partnership also received a subsequent four-year 'Transformation Implementation' grant to implement the tools and services identified through the planning grant.

In 2015, UM BWMC Emergency Department developed the Care Alert concept on their high-utilizer patients in Epic, with ED physicians writing and maintaining the content. They measured reduction in intra-hospital utilization, costs and reduction in unnecessary tests, which yielded promising results. The Bay Area Transformation Partnership used that success as a foundation for the request to HSCRC for further study and development of Care Alerts, expanding and formalizing the guidelines on content, extending utility to include all care team members, both within the hospital and ED settings to community partners, and designing the sharing of alerts with CRISP.

Program/Project Description

During the 'Transformation Planning' grant process, the hospitals identified that pivotal care decisions are continually made by clinicians encountering patients in high acuity settings. When the complex patient and clinician are new to one another and vital information is unavailable, or indiscernibly lost in a haystack of non-prioritized "data", the clinician's default care decision is often to test, admit, and treat more, not less, in an attempt to "cover all the bases". This approach is often wasteful and dissatisfying to patients and clinicians alike and creates the potential for patient harm. *Notably, Care Alerts were developed because clinicians became frustrated with portals and "data dumps" as they tried to find useful information when assessing and treating complex patients that are new to them and are presenting for care in high acuity settings.* Clinicians and community care team members require an easy, rapid and reliable mechanism of accessing and sharing "need to know right now" information on complex patients, without having to search for it.

Care Alerts provide ED physicians and others with rapidly consumable information regarding each complex patient's usual clinical presentation, medical needs and support structure, so that care decisions can be tailored to the individual. Care Alerts are readily visible within Epic at the

point of care at both hospitals, are shared with and via CRISP and viewable within the CRISP Query Portal by any authorized clinician in the state.
Our goals were to:

- Enhance patient and staff safety, prevent clinical errors and avoid unnecessary testing.
- Reduce potentially avoidable (PAU) hospital and ED utilization, including 30-day readmissions and visits associated with the AHRQ Prevention Quality Indicators (PQI).
- Provide actionable data to cross-organizational, multi-disciplinary teams at the point of care / within their daily workflows.
- Improve patient and care team satisfaction by demonstrating that we communicate with one another about patient's most important medical and non-medical needs.

Process

The high level work plan included extensive work with clinical leadership, ambulatory, ED and hospital clinicians developing guidelines for Care Alert content, and a joint technical team consisting of hospital, EHR vendor and CRISP analysts and systems integration engineers and project management, developing the solution for where to record and how to share Care Alerts across health systems.

BATP clinical leadership met with physicians and community partners across the care continuum, described the concept and guidelines, and asked for feedback on what would make a Care Alert succinct, meaningful, durable, appropriate, respectful and actionable.

Clinical Leadership from both hospitals also provided guidance on the full business requirements and documentation was developed to include the scope of work and user interface requirements. User interface design was a key factor to ensure that end-users could readily see Care Alerts in their day-to-day workflows.

The cross-organizational technical team was formed and examined where within the medical record it would be feasible to record a cross-encounter free-text note. The location was determined, and reports were generated to examine existing content, followed by training of staff and ongoing monitoring to ensure that appropriate content was entered in this very powerful Care Alert location, which would be shared with all hospitals participating in Care Alert sharing with CRISP.

Entry and maintenance of Care Alerts is a centrally controlled process at the BATP hospitals, due to the importance of keeping the content within guidelines and maintaining the alerts. The primary staff includes two (2) full-time UM BWMC Transitional Nurse Navigators (one for medical Care Alerts, one for Behavioral Health related Care Alerts), and one (1) Readmissions Clinical Analyst at AAMC, with additional community partners such as care managers being trained on how to contribute to the Care Alerts. Primary Care, specialist and other clinician and staff input is gathered by the centralized staff, and their contributions are incorporated into the alerts. The centralized staff who oversee and enter Care Alerts also work with multi-disciplinary clinical leadership teams (ED provider, PCP, Pharmacist, Behavioral Health provider, etc.) who review and approve the more complex, 'extended' Care Alerts, which include suggested care plans.

Since Care Alerts are free-text entries, there was a significant amount of work to develop and monitor content based on guidelines and templates, develop and implement initial and ongoing

training, monitor and improve quality, and maintain the alerts to keep them relevant and up to date. Our hospital Care Alert teams have operational processes in place to ensure that alerts are appropriate, durable, actionable, respectful and useful information with contribution by all members of a patient's care team either through the centralized process or supervised direct entry.

A roll-out plan for education and training of clinicians and Care Alert authors was developed and implemented early in 2016. The Care Alert feature complements other BATP interventions involving community care managers, Senior Triage Team staff from the Department of Aging & Disabilities (DoAD), and behavioral health providers. The visibility, accessibility and accountability of care team members for complex patients is enhanced by this tool.

Support for Shared Care Alerts includes IT staff from the University of Maryland Medical System (UMMS) and AAMC as well as CRISP and Epic engineers, facilitated by the BATP Project Manager. This group meets bi-weekly as needed to monitor and troubleshoot interface issues if/as they occur.

Solution

Shared Care Alerts are cross-organizational entries in each hospital's Epic EHR system that document and share via the Maryland Health Information Exchange (CRISP) succinct, critical information on high-utilizing patients, in the context of care, such that patient safety is enhanced, and admissions, duplicate testing and unnecessary and potentially harmful interventions may be avoided.

Care Team membership and program affiliation are included and communicated through Care Alerts, so that everyone who can see the alert understands who all of the other care team members are, what they do with the patient, and what programs the patient is a part of. In addition, the information includes their contact information, including how to reach out to them quickly, usually via secure texting which has been implemented across the partnership.

Because Care Alerts complement existing workflows and improved the care experience for both patients and clinicians, the feature was rapidly adopted and promoted in the medical community.

Example 1: An extended Care Alert (extensive but summarized information using the UMMS template)

Key Health Concerns: CHF, Restrictive Cardiomyopathy, Pulmonary Hypertension
Key Issues:
-8 ED visits to UM BWMC from September 2018- July 2019 all requiring IP admission
-Frequent visits to other area EDs during that time as well
-Typically presents with shortness of breath
-Jolly Good Home Health administers home IV Lasix and monitors labs weekly
-Oxygen dependent, requiring 2 Liters O2 at baseline
-Limited functional capacity- wife assists with all ADL's and manages patient's medication
Suggested Interventions
-Educate on chronic disease management
-Palliative consult to discuss goals of care
-Referral to pulmonary hypertension specialist
-Consider use of Sildenafil for pulmonary hypertension
-Care management consult to review active services
-Refer to CHF Transitional Nurse Navigator 410-787-4000
-Refer to The Get Well Program or Senior Triage team for community case management
-Coordinate care with PCP at time of discharge with follow up within 3 days after discharge
Psychosocial Supports & Concerns:
-Lives with wife Janice 410-555-1111 who is primary care giver
-Financial stressors, on disability
-Lacks transportation
Professionals Involved in Patient's Care:
-PCP- Dr. Smith 410-555-1234
-Cardiologist – Dr. Johnson 410-555-0101
-Home Infusion with Jolly Good Home Health – 410-555-0125
Reviewed by BWMC Care Plan Committee: 8/12/19
*Note: "This care plan was developed in order to help improve compliance with treatment and promote better outcomes of care. All patients presenting to the Emergency Department receive a screening medical examination and have their emergency medical condition, if present, stabilized. All care is rendered with respect for patient privacy and dignity. No part of this care plan is intended to interfere with the clinical decision making of the treating physician."

Example # 2: A brief Care Alert using the UMMS template.

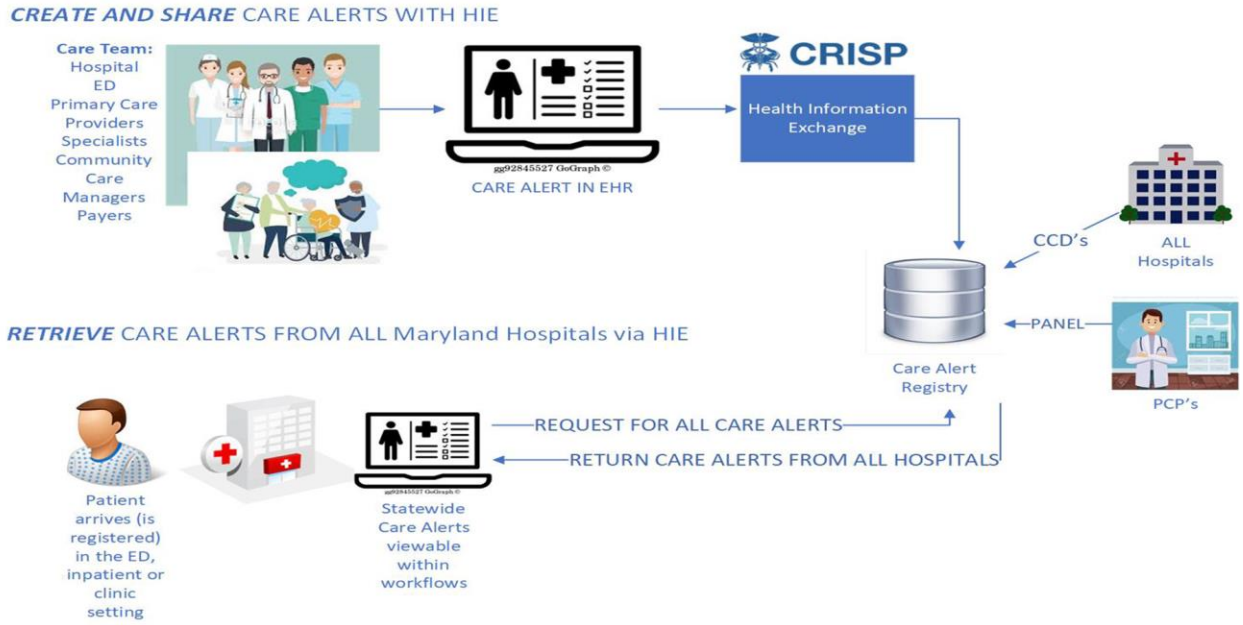
KEY HEALTH CONCERNS: CHF, Diabetes, Chronic Pain, Depression
KEY ISSUES
4 ED visits to UM BWMC between February-July 2019; 2 followed by IP admissions
Typically presents to ED for chest pain and/or SOB
Current smoker
ACTIONS FOR CONSIDERATION
Limit controlled substances
Counsel on smoking cessation
Refer to Transitional Care Center
Refer to CHF Transitional Nurse Navigator
BARRIERS TO CARE
-- SOCIAL SITUATION & SUPPORTS : Lives alone; limited social supports
-- ACCESS TO CARE : Financial stressors; difficulty affording prescriptions; lacks transportation
-- CHALLENGES : Multiple comorbidities;
-- BEHAVIORS : History of medication and diet non-adherence
PROFESSIONALS INVOLVED IN PATIENT'S CARE
Dr. Spencer (PCP) ph: 410-555-1234
Pain Management ph: 410-555-0100

ENROLLMENT NOTES
Referred to Get Well Program in April 2019, but unable to be engaged

Example # 3: A brief, program-level Care Alert from AAMC.

This information will help you care for ***Mr. Billy Brown***, a patient working with the Queen Anne's County Mobile Integrated Healthcare program as part of his discharge plan from the hospital to keep him well in the community. This patient is motivated to work with PT and get back to regular evening walks with his wife. Should any questions arise on this patient's plan of care please reach to Susan Smith, Community Paramedic, at 555-555-5555.

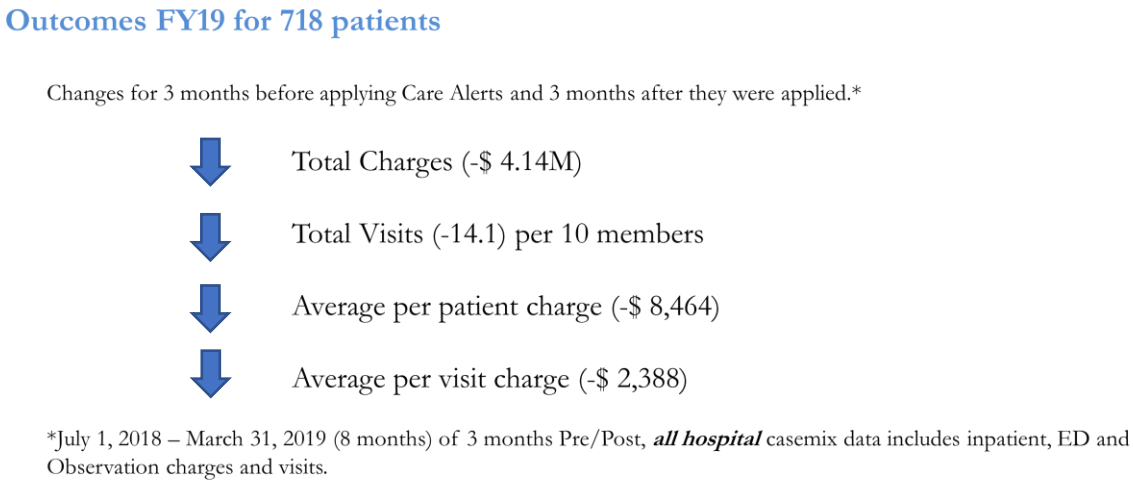
The sharing of Care Alerts solution involved extensive integration work between the hospitals and CRISP, to extract the Care Alert content from the Continuity of Care Document (CCD) and place it in a Care Alert registry at CRISP, which enabled sharing of such throughout the state. Each hospital or organization can write and share Care Alerts with CRISP. Care Alerts from all participating hospitals and organizations are displayed in the same location within the medical record at the BATP hospitals. For example, if a patient has four Care Alerts from various organizations, they are displayed together, separated by the name of the organization, followed by their alert information. This is extremely powerful, as not only are we able to share our important information, but we can review and communicate with others who are managing the patient. We can also reach out if there is stale or inaccurate information in one another's alerts.



Measurable Outcomes

Our target population for Care Alerts are primarily higher utilizers of hospital and ED services (three or more bedded stays within the last 12 months at any hospital, with bedded stays including visits as inpatient or observation > 23 hours). Since these patients already have a pattern of utilization and associated higher costs, we use the CRISP Pre/Post Report to look equidistant before and after we wrote a Care Alert for each patient and the resulting difference in total charges, average charge per patient, average charge per visit and average number of visits. We run these reports for each fiscal year, as well as a cumulative report that considers all active Care Alerts in our systems. The pattern of the change in charges for these complex patients is significant for patients who have Care Alerts, regardless of the time period for which we run the reports. The Care Alert intervention shows the highest ROI of all interventions in our portfolio, noting that we have implemented a 'quality first' approach to writing and maintaining the content of the alerts.

Here is an example of the ROI for the patients who received Care Alerts in 8 months of FY19 (July through March). The return on investment during FY19, using total change in all-hospital charges



was

Sustainability

Within the context of the grant work, sustainability is defined as showing a return on investment (ROI) that is equal to or greater than 1.0, meaning the revenue generated by providing the intervention meets or exceeds the costs of providing the intervention. CRISP does not have all-payer claims data, but they do have all-payer charges from all MD hospitals, and a report that allows us to upload and measure the change in charges and utilization for patients for whom we have written Care Alerts.

The ROI, using a calculation provided by HSCRC as part of the grant, considers total change in charges (equidistant before and after for each patient that received a Care Alert). We take 50% of the change in charges (considering variable savings), subtract the cost of the intervention (the cost of writing and maintaining Care Alerts) and divide by the cost of the intervention. The ROI for Shared Care Alerts ranges between 38.7 and 48.7 for FY19, demonstrating a *highly* sustainable, effective intervention.

Role of Collaboration and Leadership

The Regional Partnership work included several cross-organizational teams and strong leadership, project management and systems integration teams. UM BWMC and AAMC clinical leadership for the partnership came together to develop formal structures, content guidelines, user interface and workflow requirements. The concept and practical application of Care Alerts was vetted with hundreds of physicians through large workgroup meetings and 'in the field' use was ongoing for UM BWMC ED, during the planning phase. Hospital, ED and ambulatory physicians were included, and their feedback incorporated throughout the requirements phase.

The primary purpose of Shared Care Alerts is to have a single location for all care team members to communicate the most important medical or non-medical information they each uniquely have about a patient, to one another, to assist with improving care. This provides and demonstrating care coordination to patients and their families, enables efficient care and service alignment, promoting support and care in the appropriate, least expensive care setting.

Collaboration is demonstrated here, noting the multi-disciplinary, cross-organizational contributions to Care Alert content under the Bay Area Transformation Partnership:

- Anne Arundel Medical Center and UM Baltimore Washington Medical Center; Emergency Department Physicians and staff, Primary Care Providers, Specialists, Hospitalists, Nursing, Social Workers.
- The Coordinating Center (community care management)
- Anne Arundel County Department of Aging & Disabilities – Senior Triage Team (community care management)
- Arundel Lodge
- Hospice of the Chesapeake
- End State Renal Disease Seamless Care Organization (ESCO)
- Prince George's County Mobile Integrated Community Health
- Queen Anne's County Mobile Integrated Community Health
- Primary Care Providers (UMG)

Innovation

This solution was driven by clinician desire to have a single location for actionable information provided by any/all care team members, including PCP's, Specialists, Emergency Department providers, community care managers, hospital (and soon Payer) care managers and other post-acute care providers. The innovation was ultimately achieved by the hospitals, CRISP and the EHR vendor coming together to develop a solution using industry standards for data sharing developed by the Office of the National Coordinator and the HL7 standards workgroup. The power of Shared Care Alerts, coupled with other tools and mechanisms for efficient outreach across settings of care, is a tremendous care coordination capability enabled by dedicated leadership who spent the time to describe their challenges and orchestrate a solution, an advanced technical team, quality-focused care management leadership and a leading-edge health information exchange.

Culture of Safety

Since Care Alerts are written for and by all care team members who work with a patient, both within and outside of the hospital setting, they are a teaching mechanism; a culmination of the most important elements each care team member knows about the patient, either directly from the patient or through their work with them. Each provider (ED, PCP, Specialist etc.), each social worker or community care manager, has unique interactions and experience with the patient that is important for understanding the whole picture. This picture assists care teams and patients by providing continuous communication about patient needs, home environment factors, normal presentation and treatment considerations, social and economic considerations. Having the big picture in a concise location gives all care teams an opportunity to make the most of their limited time with the patients/families, demonstrates that they communicate with one another and that they are listening and communicating key factors, many of which enhance safety. We can avoid unnecessary or duplicate testing and avoid unnecessary admissions because we know of safe, effective alternatives. Care Alerts include information about the resources working with the patient, how they can help, and how to quickly reach them. Efficiency and ease of taking action are essential for busy providers and staff, and we have incorporated secure texting tools and workflows across the partnership.

Patient and Family Integration

In FY2017, we formed a Joint Patient and Family Advisory Council (PFAC), comprised of experts from both hospitals. We did an in-depth review of Care Alert content and gathered their feedback on what information is most helpful to improve care, care coordination and enhance our understanding of what is important to the patients/families. We present patient and family-facing communication, both verbal and written, to the Joint PFAC group, and they provide expert guidance on our approach, wording, and other considerations as we develop and improve interventions.

Authors of Care Alerts, including dedicated resources from care management at the hospitals, community care managers, transitional nurse navigators (who focus on specific chronic condition assistance), speak with patients, families / caregivers to determine what **their** goals are, including medical and non-medical and related supports/services that are needed to ensure they receive the best care possible in the least cost setting. The most up to date contact information for both the patient and their designated representative is included in the Care Alert.

Related Tools and Resources

There are several tools that, combined with Care Alerts, make them very powerful and actionable, such that care teams can not only learn about the patient and how best to assist, but can reach out to one another immediately, as needed. CRISP has offered and BATP has implemented cross-organizational communication using Halo secure texting. The University of Maryland Medical System has their own Halo instance (copy of the product), and we joined that with the CRISP instance of Halo, which enables streamlined search for anyone on either instance. That means that our community partners (Skilled Nursing Facility providers, community care managers) can reach out directly to either AAMC or UM BWMC Emergency Department provider who is taking those texts for the day (or night). All care team members can reach one another because they know a)

who is on the care team and b) how to reach them (including via secure texting). In FY19 alone, our partnership sent over 439,000 secure texts, demonstrating incredible care coordination activities.

Another related tool is the development of 'Programs' with CRISP. CRISP gathers a list of our programs, a brief description, program level contact information, and displays it in their portal. We reference programs in our Care Alerts, so that no matter what hospital sees them, they can find out more about the program if/as needed.

Also, Care Teams are a concept within our EHR's, and we use Care Team charting extensively to capture who is currently (or who previously) worked with a patient. The Care Alert expands on that information, offering reasons that each role could assist and how to reach them.

Contact Person

Title: Sally Seen

Email: Cynthia.Seen@umm.edu

Phone: 410-787-4573 office, 240-459-0926 cell