HIGH UTILIZER REPORTING:

REDUCING HOSPITAL READMISSIONS

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Tactical Issue Brief Series

The tactical issue brief series was created by Audacious Inquiry, LLC under a contract with the Office of the National Coordinator for Health Information Technology (ONC). Each brief will provide an overview of a value-add service health information organizations (HIOs) can provide to their stakeholders utilizing existing infrastructure, such as a master patient index or provider directory. Each brief profiles an HIO that has successfully implemented the service and provides practical real-world information to HIOs. The content, views, and opinions do not necessarily reflect those of the Department of Health and Human Services or ONC.

1. Camden HIE Profile

1.1 Use Case

The Camden Coalition provides a care management program whose goal is to reduce unnecessary hospital utilization in Camden, New Jersey. The program provides care managers who intervene with high hospital utilizers to educate patients and empower them to take control of their health. The care managers work with patients to address any barriers that prevent them from following their care plans and connecting with a primary care provider. While overall the program shows much promise, in the early stages of the program, care managers were often waiting for referrals to be sent to them, and often received referrals for patients that did not meet the intervention criteria. The referrals were often made long after care was delivered to the patient limiting the potential impact of the program. In order to address these issues, the Camden HIE (an HIO supported by the Camden Coalition) developed a method for identifying high utilizers and notifying care coordinators prior to discharge from the hospital.

The use case is relatively simple compared to other HIE services. Using data sent from two hospitals, the HIO creates a daily report listing patients with two or more inpatient stays in the previous six months who are currently hospitalized. The report also includes the number of emergency department visits by each of those patients during the preceding six months. Care managers use the report as a prompt to review each patient's medical history and determine if they qualify for an intervention. If the patient does qualify, care managers visit the bedside to offer their services to develop a plan that helps to prevent future readmissions. All of the technology employed by the Camden HIE is readily available to most other HIOs pursuing query-based exchange, even if they are only in the early stages of an implementation. To the right is an example of the daily reports created by the Camden HIE.

Recent Admissions for High Utilizers

Facility	Days Since Last	Inp	ED	Name	dob	age	sex
yesterday							
OLOL	23	5	2			87	M
OLOL	47	5	1			55	M
OLOL	14	3	8			55	M
Cooper	8	2	2			46	F
Cooper	96	2	2			31	F
Cooper	48	2	1			52	F
Cooper	149	2				83	F
Cooper	155	2				81	M
Cooper	67	2				85	M
2 days ago							
Cooper	25	6	1			66	F
OLOL	7	5				54	M
OLOL	32	3	6			37	F
OLOL	52	3	3			53	F
Cooper	14	3	1			80	F
OLOL	109	3				59	M
OLOL	16	3				72	M
Cooper	8	2	3			81	M
Cooper	102	2	1			68	F
Cooper	134	2				58	M
OLOL	160	2				27	F
Cooper	21	2				86	M
3 days ago							
OLOL	34	4	4			81	M
Cooper	9	3	4			43	F
Cooper	34	3	3			80	F
Cooper	93	3	1			21	M
Cooper	44	2	3			75	M
Cooper	71	2				51	F
4 days ago							
Cooper	34	3	5			53	F
Cooper	3	3	2			51	F
OLOL	175	2	3			19	F

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1.2 Infrastructure Components

Component	Camden HIE Product
Inbound Network Connection – ADT Messages	Transitioning to CareEvolution
Master Patient Index	Transitioning to CareEvolution
Rules Engine/Report Creation Tool	Custom-built Proprietary Product, but transitioning to CareEvolution

1.3 Cost

Labor has been the largest cost for the Camden HIE. A staff member must run and distribute the report daily (currently a manual process), and another staff member with medical knowledge must triage the list each day. Moving forward, the HIO is implementing a dedicated server that will allow it to easily access the data from the vendor and distribute the report to staff members. The dedicated server will cost approximately $60,000.

1.4 Return on Investment

The Camden HIE has not yet quantified the ROI in dollar terms. However, the service helps care managers function more efficiently by alerting them that high-risk patients are at the hospital, helping to determine if they qualify for the program, and supplying them with information relevant to care planning.

1.5 Challenges

The Camden HIE's current vendor did not have the ability to produce the kinds of reports the HIO was seeking. Consequently, the HIO chose to build the reporting tool itself, which took much trial and error, as well as time and expense. The HIO also had to work with the two hospitals to ensure that the underling ADT feeds included the right kinds of data to support the service.

2. High Utilizer Reporting Service

2.1 Use Case

In order to reduce hospital readmissions, payers and hospitals participating in bundled payment initiatives are developing high-touch patient interventions performed prior to patient discharge from the hospital. In order to perform interventions prior to discharge, case managers require real-time data on the patient, much of which may not be readily available today. A health information organization (HIO) that receives real-time admit, transfer, discharge (ADT) feeds from hospitals is positioned to provide valuable data to case managers to support such interventions. For instance, when ADT data is received by an HIO, it can be processed through a rules engine to identify those patients at high risk for readmission. The HIO can then generate a report or notifications (this may be daily, hourly, or in real-time) to be sent to case managers to initiate pre-discharge care coordination activities and other risk-mitigation strategies. There

are a number of benefits to utilizing an HIO for this service, which relies on relatively simple underlying technology. HIOs are uniquely positioned to supply actionable, real-time data from multiple treatment centers to those who can put it to use improving care and reducing readmissions.

2.2 Business Case

The Affordable Care Act (ACA) has created new incentives for hospitals to reduce preventable readmission rates, a significant driver of the overall cost of care. In particular, the hospital readmission penalties and accountable care organization (ACO)/shared savings programs promote improved management of patients via primary care and the prevention and/or reduction of hospital in-patient stays. Hospitals, PCPs, and payers are becoming incentivized through these programs to better coordinate patient care, particularly when patients are discharged from the hospital. Using real-time ADT data to generate lists of patients most at risk for readmission allows hospitals, patient-centered medical home (PCHM) programs, ACOs, and payers to perform patient interventions prior to a patient's release from the hospital. These high-touch interventions can help to ensure patients have adequate follow-up care prior to hospital discharge.

2.3 Legal/Policy Considerations

HIOs offering this service must ensure that the sharing agreements created with hospitals allow for this use of the data. Likewise, HIOs and their participants should consider how to notify patients that their data will be used in such a manner. While the patient intervention service is considered treatment and therefore covered under HIPAA, providing notification to patients of this specific use will ensure they are not surprised when case managers visit with them during their hospital stay. Finally, if the HIO is working with payers and their case managers, they will need to insure that patients that pay out of pocket are not included in these reports or notifications to payers, as required by the ACA.

2.4 Infrastructure Components

Component	Function
Inbound Network Connection	Enables VPN connections and receives inbound ADTs
Interface Engine	Routes inbound ADTs to next step (in this case MPI)
Master Patient Index (MPI)	Creates new patient identity or matches to existing identity
Rules/Reporting Engine	Maintains rules for creating the daily report and determining which patients are included in the report
Optional Components	
Record Locator Service (RLS)	Pull additional information on the patient's visit, including lab results, medications, notes, and images
Notification Engine	An API that generates outbound messages if the HIO supports a notification service as well as reports. May generate Direct messages or other secure messages for Case Managers.

2.5 Potential Challenges

While some HIE vendors have the ability to create the report automatically, many do not; requiring the HIO to have technical resources build the rules/reporting engine. For HIOs with limited technical resources, this may be challenging to build. In addition, accurate patient matching to the MPI will be necessary in order to identify patients with multiple hospital admissions.