

**Health Risk and Engagement** Hide Plan

Health Concerns 1	Goals 4	Socioecon	HRA Medium	HCC-Dx 2.49	Hosp Visits 1	ED Visits	Meds 3	Contract Multiple	Adv Directive Yes
----------------------	------------	-----------	---------------	----------------	------------------	-----------	-----------	----------------------	----------------------

Concerns	Description	Follow-up	Last Modified
Worried about developing diabetes due to excess weight.		9/1/2017	8/28/2017

Goal	Socioeconomic	Last Value	Risk Status	Modify Status	Next Due
Lose 20 lbs.	Financial	Not very hard (1/28/2017)	Low	(H)	1/28/2018
Feel rested in the morning	Education	Bachelor's degree (1/28/2017)	Mod	(H)	
	Stress	To some extent (1/28/2017)	Low	(H)	1/28/2018
	Physical activity	1 day (1/28/2017)	Low	(H)	1/28/2018

OCTOBER 2017

# POPULATION HEALTH MANAGEMENT IT: ACHIEVING SEAMLESS INTEGRATION WITH ELECTRONIC HEALTH RECORDS

**Jay Ward**

Senior Vice President of Engineering & Operations



# Population Health Management IT: ACHIEVING SEAMLESS INTEGRATION WITH ELECTRONIC HEALTH RECORDS

## CHANGING BUSINESS INITIATIVES AND BILLING MODELS DRIVE THE NEXT LAYER OF IT ABSTRACTION

For healthcare IT organizations, the transition to population health management can raise concerns of additional strain on already-stressed resources. But the one-time heavy lifting of electronic health record (EHR) implementation provides the required technical and workflow foundation for new population health management (PHM) capabilities.

PHM software layers point-of-care decision support, care team tasking and coordination, and data visualization and analysis over the EHR, which provides clinical data collection, insurance coding, and billing capabilities. New PHM capabilities are designed to be implemented on stand-alone technology with seamless integration into existing EHRs and IT infrastructures—as well as workflows. Integration has been a primary concern affecting decisions to invest in a stand-alone PHM solution. According to Gartner,<sup>1</sup> healthcare CIOs need to invest in population health management tools that are seamlessly integrated into the EHR and its workflows so that technology doesn't fall behind and hamper the organization's ability to execute on its PHM strategy. In fact, Gartner states that 80% of US healthcare delivery organizations are expected to have purchased PHM software by 2020 as the next logical layer of IT abstraction.

## ENLI CAREMANAGER: PROVEN TECHNOLOGY FOR POPULATION HEALTH MANAGEMENT

CareManager, the care management and care coordination platform from Enli Health Intelligence, enables a high-functioning care team to be up and running quickly, using actionable information that is viewable at the point-of-care and throughout the organization. According to IDC,<sup>2</sup> Enli is one of the few PHM IT providers to achieve bi-directional integration with multiple EHRs. Enli CareManager was named **2017 Best in KLAS in Population Health Management** software, and was also recognized as the 2016 top-rated care management solution by Chilmark Research.

Unlike typical enterprise software deployments, Enli CareManager provides a smooth implementation path from deployment through implementation, clinical training, and access to keep organizations on track for future payment models and capabilities. In this technical brief, we address several of the more commonly expressed concerns from technology leaders regarding the potential impact of integrating CareManager into current IT environments.

## TECHNICAL IMPLEMENTATION OF CAREMANAGER PHM

### INTERFACE MANAGEMENT

For any PHM functionality, application programming interfaces (APIs) provide the definitions, protocols, and tools that enable static repositories to exchange data with the applications that support providers as they risk-stratify patients, coordinate care team activities, and deliver evidence-based care. CareManager interfaces are built upon standard industry specifications as well as the recommendations of each EHR or system of record. Additionally, they are actively tested, maintained, and supported by the Enli development and customer success organizations. This provides a best-of-breed population health IT solution, while reducing the complexity of data exchange and ongoing management.

## PHM Software Supports the Move to Clinical Quality Measures (CQMs)

The latest evolution of healthcare systems is the incorporation of capabilities that support new reimbursement models and value-based care approaches such as care teams. These must be supported by PHM software, however, that coordinates longitudinal care with constantly evolving clinical evidence to improve clinical and financial outcomes. This new layer of software supports the transition from fee-for-service (FFS) to value-based reimbursement (VBR) models and integrates into care practices with minimal friction in terms of data, workflows, costs, training, and provider and patient engagement.

Clinical quality measures (CQMs) represent metrics of the effectiveness of providers and provider organizations. They have been developed by several organizations that support healthcare quality, notably the National Quality Forum. CQMs are typically expressed as a proportion, with explicitly defined denominator and numerator. Common CQMs include those that measure blood glucose management in diabetic populations, the proportion of individuals who meet recommendations for screening for breast cancer or colon cancer, or the proportion of individuals with risk factors associated with heart disease who meet adherence recommendations for statin use. Importantly, CQMs must be adapted to a constantly evolving evidence to offer the best outcomes.

CQMs position providers effectively for VBR contracts by helping them avoid costly interventions, drive higher quality scores, and qualify for payment adjustments and incentives. But the use of CQMs also drives actions to close gaps in care, which translates to an increase in services, more office visits, and a lift in FFS billings. Already, CQMs comprise 20% of total income and will grow to the dominant share by 2020. By improving CQMs, providers can boost FFS income today while gaining experience in the Quality Payment Program.

For CIOs, the question is how to incorporate these new quality measures into current IT systems and provider workflows for which the EHR is now the foundation. PHM IT systems do this by consolidating patient data from a variety of sources, running the data through a series of algorithms sourced from clinically validated, evidence-based guidelines, and informing decisions that improve both quality and cost outcomes across a population. This is accomplished with seamless integration into existing EHRs and workflows.

---

## DEPLOYMENT

CareManager is designed to support PHM organizational change out-of-the-box. Enli curates peer-reviewed clinical guidelines, then codifies and delivers them to the point of care within existing provider workflows using its Knowledge to Action® technology. More than 200 algorithms have been codified and deployed throughout the platform to ensure that care teams are using the latest evidenced-based medicine at the point-of-care. Deployment is a managed process that is conducted in logical phases—typically with minimal variance—that doesn't interfere with daily provider activities. The impact on IT is significantly lower than previous large deployments such as EHRs, and with significantly higher ROI to support business objectives.

## DATA INTEGRATION

Patient health information enters CareManager through a data layer that ingests, validates, and utilizes records from multiple sources, including EHRs, data warehouses, and patient self-reported data. In many cases, CareManager can use data sources that are already in place without requiring additional expense or IT resources. IDC Health Insights<sup>3</sup> reported that Enli's ability to embed the company's applications inside EHRs is due in large part to its technical legacy. It was among the early developers of secure clinical messaging, automated messaging, and e-prescribing.

## APPLICATION INTEGRATION

Applications are already integrated into the Enli platform, which is in turn integrated into the EHR and existing clinical workflows. Care managers within the organization can quickly build work queues for central and clinic-based teams. Patient score cards, task lists, and dashboards are presented directly within the provider's EHR, ensuring there is no impact to care team productivity. Using evidence-based clinical guidelines, population segments can be automatically assessed and stratified according to risk, condition, and access to care. These guidelines are curated by Enli's CareManager Advisory Group (CAG), an active community representing more than 50 live customer sites, with representation from large academic medical centers, community hospitals, multi-specialty clinics, Federally Qualified Health Centers, and skilled nursing facilities. "Enli is unique with evidence-based guidelines curated, codified, and delivered in the software," stated Chilmark Research.<sup>4</sup>

## TECHNICAL IMPLEMENTATION

Clinical mapping is a process conducted during the CareManager implementation phase that creates the connection between CareManager's clinical vocabulary and the coding terms used by providers. By mapping the terms, CareManager can use logic to highlight care gaps and drive evidence-based workflows. CareManager maps standard implementations for a wide range of data sources. Even as care providers adapt workflows to capture new sources of data, the IT impact is minimal as Enli manages the mapping of that data. CareManager also comes with a series of configured out-of-the-box workflows, including those associated with disease registries and quality measures. In addition, organizations can configure their own workflows by adapting the clinical logic, which is a significantly less intensive effort relative to typical EHR configurations.

## TRAINING & CLINICAL IMPLEMENTATION

Training is customized for each organization based on an operational analysis, workflow specification, and change-impact analysis. Frequently, training and deployment occur in a phased approach, where clinics gain experience with basic CareManager functionality before they are introduced to more sophisticated capabilities. Training is customized according to individuals' functional role in the organization and their specific knowledge needs. Clinicians—such as providers, support staff, and members of the extended care team—require a clinically focused training versus non-clinician staff with roles that do not perform clinical decision-making. The training curriculum is role-based and designed to provide context for users to understand each scenario, when and why a best-practice workflow would occur, and how the user can perform a task.

Technical training encompasses several areas, including: server configuration, database configuration, location and user configuration and setup, provider and cluster setup, filter development, workflow automation, configuration of communication templates, and development of outreach messaging. Commenting on its analysis of CareManager within **Population Health Management 2015**, KLAS stated that, "Enli's ability to create a comprehensive patient record, and to improve the efficiency and effectiveness of care coordinators, is exceptional."

## SECURITY

Enli's CareManager suite can be deployed partially or entirely in the cloud, adhering to stringent industry best practices for security. Microsoft Azure Active Directory (AAD) provides standards-based, world-class Identity and Access Management (IAM) services, and Enli takes advantage of the OpenID provider of AAD, which allows for secure authentication without transmitting users' credentials to Enli.

---

All personally identifiable health data is encrypted with the AES-256 algorithm, a standard recommended by the US government. The encrypted database is not accessible to the Internet and is only available to the application server. The front-end UI server does not have direct access to this database. The keys are stored securely and separately from the data stored on disk so that even if a disk is lost or stolen from Microsoft's data centers, the data would not be recoverable.

## ACCESS

CareManager supports role-based access control and auditing of user actions. Authorization using OAuth tokens allows (or refuses) a user's ability to take a particular action. In addition, user access is logged at the page level and write-level actions such as messaging a patient are logged in history tables and transmitted to the EHR for recording, allowing security teams to analyze and respond to user actions. Users can also be assigned to security groups, each with an associated set of permissions that determine which operations in the system a member of the group may perform. Security settings include access to administrative functions, per-module access settings, communication permissions, and more.

The cloud-based user interface can be accessed only via HTTPS in a web browser that supports TLS 1.1 and 1.2.

## CERTIFICATION AND AUDITS

Enli's software undergoes static analysis and is fully scanned and tested for security vulnerabilities before launch. Enli's cloud services also follow industry best practices for security certification and audits. The American Institute of Certified Public Accountants (AICPA) has developed the Service Organization Controls (SOC) framework for controls that safeguard the confidentiality and privacy of information that is stored and processed in the cloud. This aligns with the International Standard on Assurance Engagements (ISAE), the reporting standard for international service organizations. As a Microsoft-covered cloud service, Enli systems are audited by independent third-party auditors at least annually for SOC 1 and SOC 2 reporting. The audit for Microsoft cloud services covers controls for data security, availability, processing integrity, and confidentiality as applicable to in-scope trust principles for each service.

## FUTURE PROOFING

CareManager's subscription model ensures that the software remains up-to-date with any supported environment, including third-party updates and security patches. Clinical content is regularly updated for the latest evidence-based guidelines, and new CareManager modules are tested and confirmed for any current system.

## THE NEXT LOGICAL STEP IN HEALTHCARE IT TRANSFORMATION

Enli CareManager helps progressive healthcare organizations grow the enterprise and outperform competitors on clinical quality measures and patient engagement, without putting undue stress on the organization's IT group. Enli CareManager layers new PHM capabilities onto current technology stacks, with out-of-the-box integration into the EHR and provider workflows, to have teams up and running as quickly as 12 weeks after project start.

For additional, in-depth guidance, see the **"Guide for Developing an Information Technology Investment Road Map for Population Health Management."**



## About the Author

Jay leads software development at Enli. Prior to joining the company, he served in a variety of product and engineering-focused roles at Intel, ClearCommerce (now FIS Global), and eFusion. Jay received his MBA from the Thunderbird School of Global Management.

### Jay Ward

Senior Vice President of Engineering & Operations

Enli Health Intelligence

[jward@enli.net](mailto:jward@enli.net)

1. Craft, Laura. "Healthcare Provider CIOs Need to Stay on Course and Procure a Population Health Solution." Gartner, February 2017
2. Burghard, Cynthia. "IDC Marketscape: U.S. Population Health Management 2016 Vendor Assessment." IDC, September 2016
3. Burghard, IDC Marketscape
4. Matt Guldin, Analyst, Chilmark Research 2016



## ABOUT ENLI

Enli Health Intelligence® is the market leader in population health management technology. Enli enables care teams to perform to their full potential by integrating healthcare data with evidence-based guidelines embedded in provider workflows across the population and at the point of care. **For more information, please visit: [enli.net](http://enli.net).**



ENLI.NET

[COLLABORATE@ENLI.NET](mailto:COLLABORATE@ENLI.NET)

### CORPORATE OFFICE

844.572.6400

1600 NW 167TH PLACE  
SUITE 330  
BEAVERTON, OR 97006