Larry Garber, M.D.
Medical Director for Informatics
Reliant Medical Group, a member of Atrius Health

Testimony before the Health IT Policy Committee
Health IT and Accountable Care Hearing
December 5th, 2013, Arlington, Virginia

Summary

1. Reliant Medical Group and Atrius Health have achieved the Triple Aim of improved health care, improved health, and reduced healthcare costs through the thoughtful and ubiquitous implementation of an Electronic Health Record (EHR), patient engagement and home monitoring tools, health information exchanges (HIEs), robust clinical decision support (CDS) tools, and comprehensive analytics and reporting tools.

2. The nation can achieve the Triple Aim through **standardization** of a National Provider Directory Network, Community Master Patient Indexes, Relationship List Services, Significant Event Notification Documents (SENDs), patient authorization requirements for release of information, home monitoring device integration, and an orderable test compendium.

3. Accurate data for quality reporting can only be obtained if the data can be re-used for multiple purposes such as patient care, communication during transitions of care, billing, and documenting Meaningful Use of EHRs. **Unified metrics, document formats, and vocabularies** will be required to make this possible.

Atrius Health

Atrius Health is an alliance of 6 multi-specialty group practices and a home health agency with 50 sites located throughout central and eastern Massachusetts. Atrius's 1000+ physicians representing 35 specialties use an EHR from Epic Systems Corporation to care for 1 Million patients with 4 Million visits/year. Atrius is a physician-led Pioneer Accountable Care Organization (ACO), is not-for-profit, and is not legally affiliated with any hospitals.
Reliant Medical Group is one of Atrius Health's 6 group practices and cares for 25% of Atrius's patients. Reliant is in risk-sharing contracts for 70% of their patients.

Atrius Health's Philosophy

Atrius Health believes in the Triple Aim: Delivering higher quality, safer care will result in better outcomes and reduced cost. Atrius believes that 5 health information technology (HIT) components are required in order to successfully achieve the Triple AIM:

     i. Electronic Health Records (EHR)
     ii. Patient-engagement and home monitoring tools
    iii. Health Information Exchange (HIE)
    iv. Clinical Decision Support (CDS)
     v. Analytics and reporting tools

Reliant Medical Group's HIT Infrastructure

Reliant Medical Group, along with the rest of Atrius Health, have completely implemented an EHR from Epic Systems Corporation.
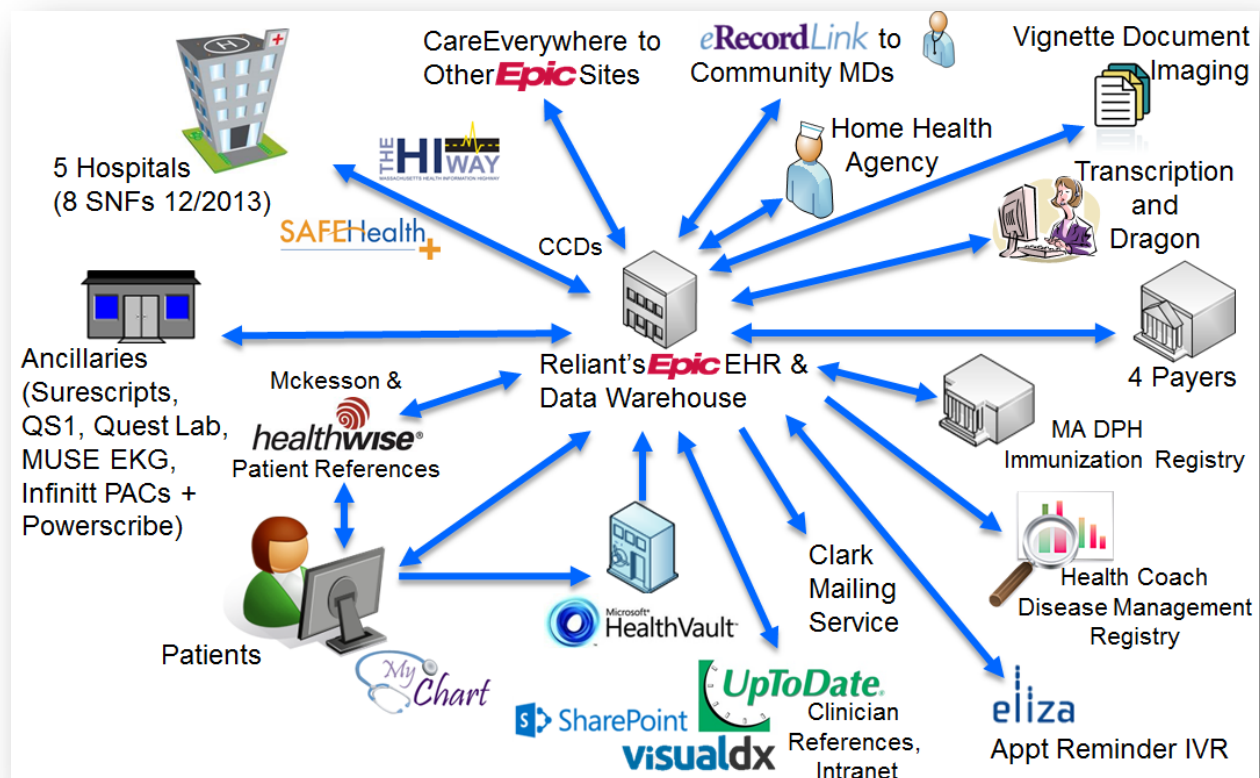
For patient engagement, Reliant has implemented Epic's tethered personal health record (PHR) known as MyChart. Reliant has also implemented several other methods to engage patients, including the Eliza Interactive Voice Response (IVR) system to remind patients of upcoming

appointments or tests, an automated no-show letter if they miss their tests, and an automated "Birthday Letter" wishing each patient a happy birthday, and notifying them of patient-specific health maintenance and disease management tests and procedures that they are due for that haven't been scheduled yet. Reliant also has 200 patients with diabetes and hypertension using home blood pressure monitors that upload readings via Microsoft HealthVault into their Epic EHR record in order to facilitate monitoring and treatment between visits. Reliant intends to extend this to other home monitoring devices such as scales, pulse oximeters, glucometers, and activity monitors in order to better manage disease and identify adverse health trends earlier.

Reliant Medical Group has built an extensive HIE network striving for "Hassle-free HIE" by connecting EHRs directly to EHRs and automating transmission of information whenever possible. This network consists of point-to-point HL7 2.x interfaces, SAFEHealth (a self-developed federated edge proxy-server HIE - SAFEHealth.org), CareEverywhere (Epic's IHE XCA query-based HIE), and the Massachusetts statewide HIE known as the HIway (pushing messages using Direct). Reliant has interfaces with reference laboratories, a home health agency, multiple community physicians, and by the end of 2013, multiple nursing facilities as part of the IMPACT project (mehi.masstech.org/what-we-do/hie/impact).

Reliant Medical Group has developed sophisticated interfaces with local hospitals. Several hospitals automatically send all lab, radiology, procedure, and visit notes from ambulatory, emergency department (ED) and inpatient encounters directly into Reliant's EHR. ED triage notes are sent the moment that they are created into the primary care physician's (PCP's) EHR inbasket. Hospital and ED discharge instructions are similarly sent at the moment of discharge to the PCP and care manager's EHR inbaskets. Furthermore, the hospital automatically sends an ADT message whenever a Reliant patient is registered in the ED. Reliant uses this ADT message to automatically generate an HL7 Continuity of Care Summary Document (CCD) which is sent via the MA HIway back to the ED so that within 30 seconds of registration, an icon flashes on the ED's bed-board showing that the patient has outside records available for viewing. These hospital interfaces enable timely and appropriate interventions for the care of Reliant's sickest patients and promote care coordination.

Reliant Medical Group has also extended its HIE capabilities by importing timely claims data from payers directly into the EHR. Each night, pharmacy claims for medication fills from the prior day are loaded into the EHR's medication list and medication fill history. Each week, the other medical claims are automatically loaded into the EHR to populate immunizations (e.g. tetanus shots given in the ED), health maintenance dates (e.g. mammograms and colonoscopies done across town), disease management dates (e.g. diabetic HA1c and Retinal Exams done by outside specialists), Past Medical and Surgical History, and Encounter History (ED, hospital, skilled nursing facility, home health, etc...). By importing claims data in a timely manner, Reliant physicians and case managers are aware of all care that a patient receives, regardless of where

it takes place in the country. Because the format and vocabularies for claims data are so standardized, claims integration into EHRs is relatively easy and inexpensive to accomplish.

Reliant discovered the importance of Clinical Decision Support (CDS) in achieving the Triple Aim a year after implementing the EHR without CDS, when there was little improvement in quality and outcomes metrics. Then, after turning on CDS, Reliant's metrics improved dramatically. Reliant uses Epic's standard CDS, along with some advanced configuration techniques and some custom analytics routines. Reliant's CDS is carefully designed to only show what's appropriate for the particular patient based on age, gender, diagnoses, procedures, medications, allergies, visits, insurance, social history, test results, and scheduled tests/procedures/visits, taking into account all information done at Reliant as well as all information loaded through the HIE. As a result, there are very few false positive alerts so physicians and staff are more likely to pay attention to these alerts.

Reliant uses a variety of different CDS alerts integrated into the EHR. Some alerts are for missing Health Maintenance or Disease Management tests or procedures, including reminders for patients to go to the lab if a test has already been ordered. Some are for missing medications (e.g. B-blocker in congestive heart failure, or ACEs/ARBs in hypertensive diabetics) or missing medication monitoring during renewals or after hospital discharge if a new medication has been started as determined by pharmacy claims data. The EHR also automatically sends an inbasket message to the PCP's appointment secretary 3 days after hospital discharge if a hospital F/u appointment has not been done or scheduled. Reliant uses similar CDS logic to make sure that order sets only show the appropriate orders for a given patient.

Reliant also uses CDS to trigger appropriate patient assessments and assist with documentation. For instance elderly patient who are due for a Medicare Health Risk Assessment have the documentation form automatically presented for completion at the time of a visit. Similarly, ACO Fall Risk, Depression Screening, Advance Care Planning, and Medication Reconciliation after Hospitalization forms are presented only when due. Likewise, a CDS-driven Medication Renewal Documentation form automatically displays relevant information specific to the patient and medication being renewed, including recent monitoring test results and visits, scheduled relevant tests and visits, and based upon these, a recommended # of refills and suggested medication monitoring orders.

Reliant also uses CDS to predict future risks. For instance, Reliant calculates and displays the Pneumonia Severity Index, the cardiac risk, the FRAX bone density fracture risk, a home-grown Barometer of Actionable Deficiencies (AKA "BAD" Score), and Verisk's DxCG score. These help identify patients requiring actionable interventions that can be acted upon during visits as well as between visits.

The last crucial piece of Reliant's HIT infrastructure is its analytics and reporting tools. Reliant uses EHR-integrated registries, a data warehouse, and reporting tools to better manager populations of patients as well as to identify individual patients who are falling through the cracks or providers who are outliers in the quality or cost of their care. Reliant has multiple disease-specific registries including Diabetes, Hypertension, Hyperlipidemia, CHF, COPD, HIV, Anticoagulation, Pulmonary Nodules and Colonic Polyps. There is also a registry for "High Risk" patients which is used for outreach and multidisciplinary roster review.
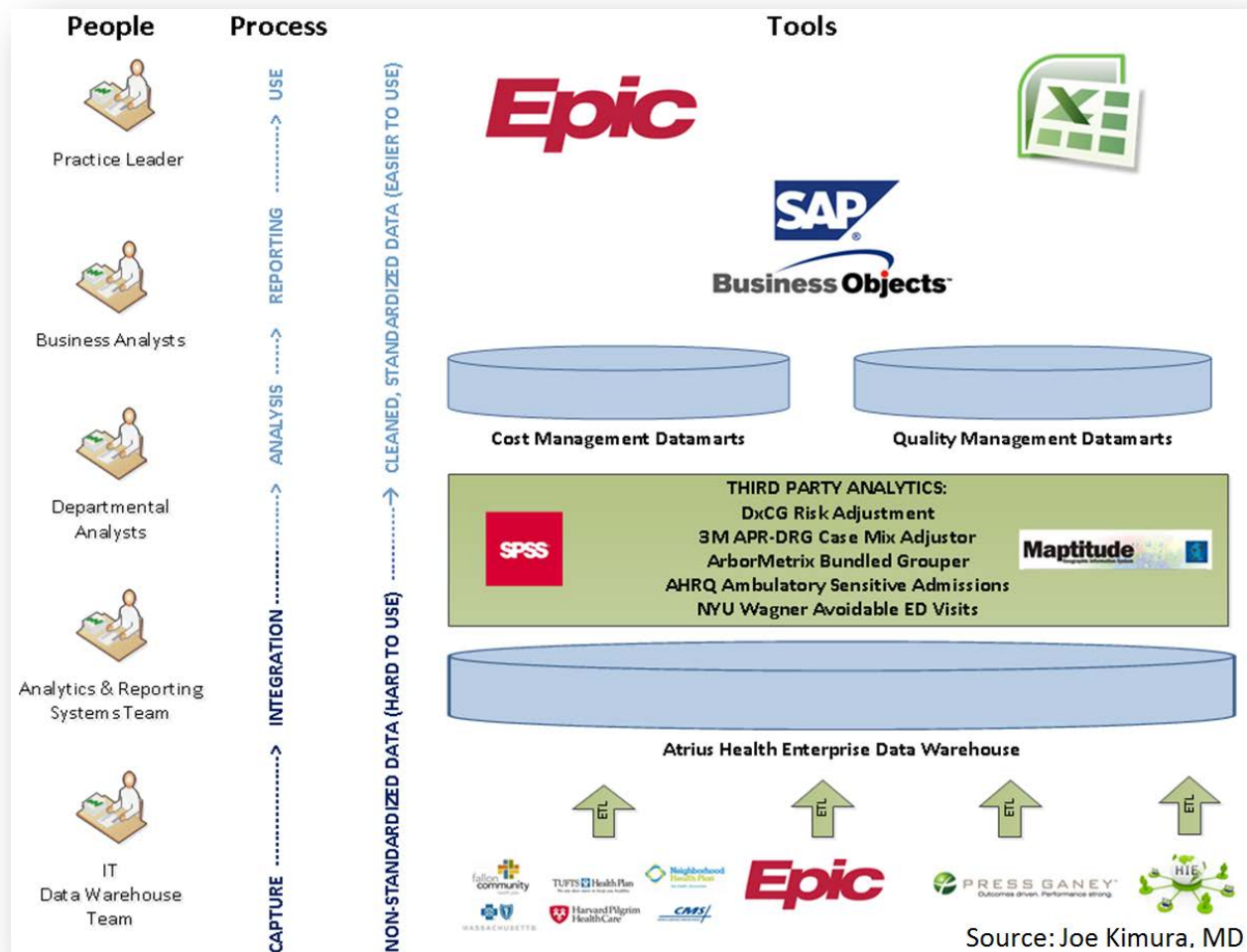
Reliant's data warehouse creates multiple data marts for cost and quality management. These generate reports ranging from the organizational-level to the user-level, and can be drilled down to individual patient-level. Some reports are integrated directly into the EHR to facilitate actions to be taken on individual or groups of patients. The reports include analyses of operations, utilization, total medical expenditures, and quality measures for various purposes such as BCBS Alternative Quality Contract (AQC), NCQA HEDIS, Medicare Advantage and Pioneer ACO.

Outcomes from the Atrius Health Pioneer ACO

Reliant Medical Group and Atrius Health's extensive HIT infrastructure has had dramatic results. Atrius's ACO significantly exceeds the nation's Pioneer ACOs' mean on most quality and outcomes measures, and is among the best in the nation in many measures.
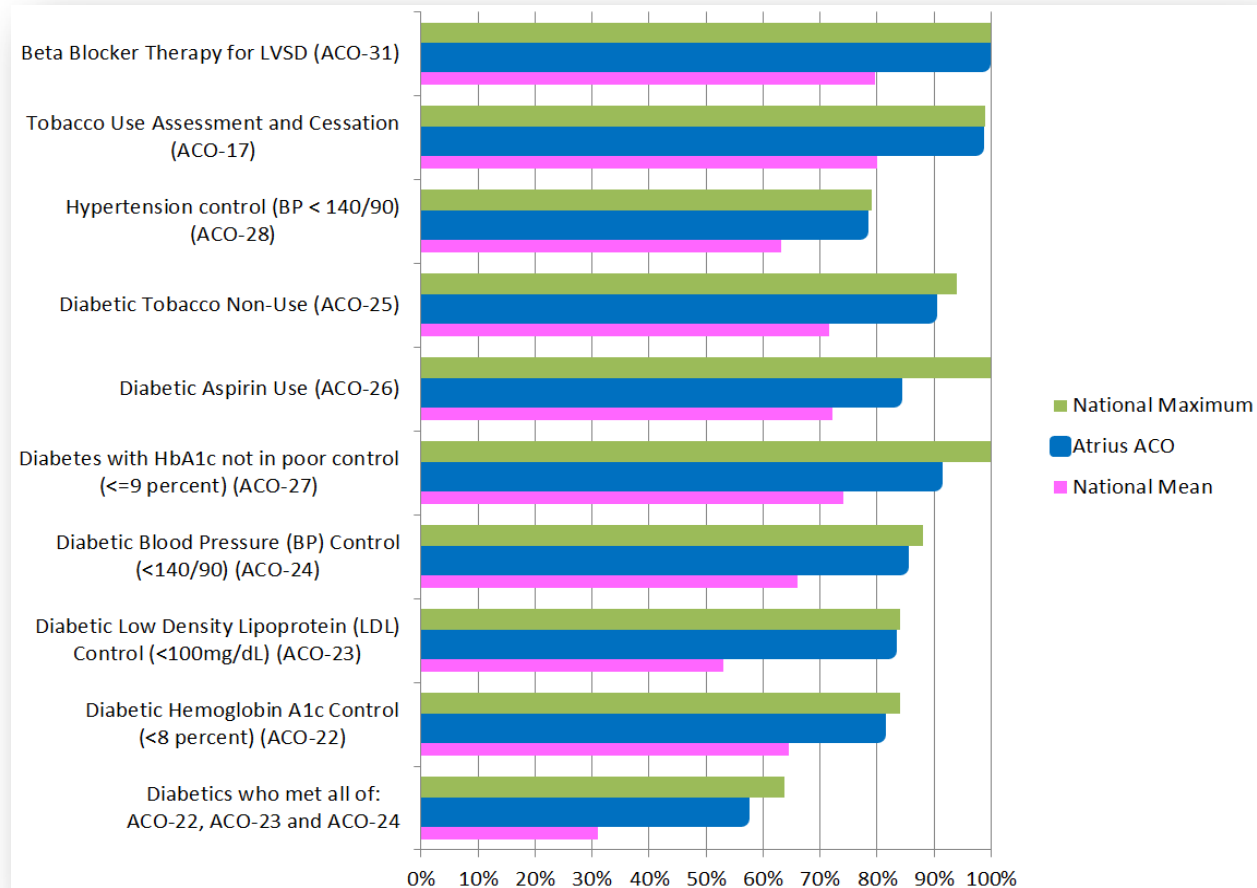
Atrius's ACO also has significantly lower costs compared to the other 4 Massachusetts Pioneer ACOs:

- Avg. Massachusetts FFS: $13,000+
- Avg. Massachusetts ACO: $12,000+
- Atrius Health ACO: $10,700

HIT Recommendations to Promote the Triple Aim Nationwide

The rest of the nation can achieve similar results in improving the quality, safety, outcomes and cost of healthcare by building a suitable HIT infrastructure to support care coordination. The following are the missing pieces of the puzzle that need to be implemented collectively to achieve the Triple Aim:

1. Standards for a network of Provider Directories around the country so that any EHR can easily find the Direct address and certificate of any healthcare provider in the country. A corollary to this is that each EHR is the source of truth for which providers work in that organization, so the standards should enable EHRs to automatically keep the **National Provider Directory Network** (NPDN) up to date. This will make it easy to accurately identify **how to send clinical information** to another provider. The NPDN should also record the type of provider (e.g. an ED or a Psychiatrist or a Public Health Agency) and their physical location so that when a record holder needs to evaluate a query from a requestor, they can use this information to help determine how much they trust the requestor (e.g. in-state vs. from a state with less restrictive consent laws). Collecting these data elements will also expand the usefulness of the NPDN because it could also be used to find providers for referrals.

2. Standards for **Community Master Patient Indexes** (CMPI) and **Relationship Listing Services** (RLS) which record where the patient has received care, the local Medical Record Number (MRN), and whether the patient has given consent for that organization to participate in HIE. Visits to any provider, with the patient's consent, should automatically update the CMPI and RLS using the ADT from their EHR. A CMPI and RLS will allow EHRs to automatically know **where information needs to be sent**, and adds the ability to send it with the destination organization's MRN so that it's easier to file. It also enables a patient to give a single consent that covers all places of care (see below), as well as the ability to send deidentified data to a central quality data warehouse while merging patient records from disparate providers by using the CMPI community MRN.

3. Standards for **Significant Event Notification Documents** (SENDs), such as an ED/Hospital/SNF admission/discharge/transfer (ADT), a PCP change, or death. This will standardize **what the information being sent should look like**. Used in conjunction with the RLS, this will enable continuous updates to the care team regarding the patient's location and condition, enabling better care coordination and avoiding inappropriate alerting for patients that have died.

4. National simplification and standardization of **patient consent requirements** for release of information and the ability for those authorizations to be conveyed in ADTs from EHRs to a RLS. This should include the ability for a patient to globally pre-consent for all organizations providing care to the patient now or in the future, and the ability to revoke consent for specific organizations that provide their care, such as behavioral health providers or their place of employment. State-specific consent requirements should be codified and be published in a way that all EHRs can consume them and **understand if information can be**

sent. There should also be a national campaign marketing the value of HIE to patients in order to encourage consent for participation. These will make it more likely that patient information can be sent to where care is needed.

5. Enhance standards for **query of information** such that it provides enough information for the record-holding EHR to be able to automatically decide whether patient information can and should be release. Such information includes the purpose of the request (e.g. Treatment, Payment or Operations), whether the record-holder's state-specific consent has been obtained from the patient, and whether this is a one-time request versus a subscription to all new patient data going forward. The type of requestor and physical location of the requestor could be obtained from the NPDN in order to further establish whether the requestor is trusted and whether the release should be automatically processed by the EHR. EHRs should also be able to maintain their own lists of trusted organizations (AKA white list) and non-trusted organizations (AKA black list). EHRs should be able to identify which queries can be automatically responded to based-upon previously collected patient authorizations, local consent laws and policies, asserted authorization from requestor, purpose of the request, specific requestor organization (e.g. trusted and non-trusted lists), type of requesting entity (e.g. DPH), and geographic location of requestor (e.g. state and/or physical distance to denote a local community request). Non-automated responses should be escalated to human intervention.

6. **Home monitoring device integration** standards. Monitoring patients in their home to more rapidly achieve treatment goals and detect adverse trends early is an important tool for the future of healthcare, and these standards will keep the cost of these services more reasonable by reducing the cost of implementation and promoting competition through substitutability.

7. Standard **vocabulary for orderable tests**. For instance, there currently is no SNOMED or LOINC code for Quest or LabCorp's Thyroid Cascade. Such a standard would dramatically reduce vocabulary mapping requirements, lowering the cost for implementation and support of test order and result interfaces.

8. Standards for **prior authorization requirements** so that EHRs can leverage Clinical Decision Support to facilitate gathering the necessary information and ordering the correct test or procedure. This should also enable automation of test and procedure approval.

9. Make **claims data from payers** readily available to providers on a daily basis, and require that EHRs are able to incorporate these data. With EHRs becoming ubiquitous, billing and claims adjudication are occurring faster and the PCP's EHR could take advantage of this valuable information if conveyed in a timely manner in order to be aware of all care received by their patients.

10. EHRs should be able to extract "facts" from received claims and HL7 Consolidated-CDA documents (e.g. Test results, immunizations and visit notes) and automatically **incorporate them into the EHR as discrete data**. EHRs should be able to make automated decisions on whether to route these to InBaskets and which InBaskets based upon whether the patient

was inpatient, in the ED, or ambulatory when performed and when resulted, who ordered it, who performed it, and who the PCP is.

11. **Align ACO metrics** with other payer, state and federal quality and performance metrics, as well as with HL7's Consolidated-CDA standards, Meaningful Use, and public and private payer billing requirements. In order to maximize the collection of data and increase the likelihood that the data will be accurate, it needs to provide value to the person entering the information. By maximizing the re-use of these data, you maximize its value to the provider organization. This will enable the ultimate goal of having measurement being a byproduct of normal patient care.

12. **Stop the ICD-10 rollout** now! ICD-10 does not align with the clinically useful vocabulary SNOMED that all EHRs are currently required to support and thus will bring us as a nation no closer to achieving the Triple Aim. Instead, it is diverting resources away from initiatives that could truly enhance patient care. Wait 5-10 years for a billing vocabulary that is aligned with SNOMED to become mature, such as ICD-11…

Respectfully Submitted,
Larry Garber, M.D.
Lawrence.Garber@ReliantMedicalGroup.org