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PANEL III: How Advanced Health Models are Supporting Integrated Care for Individuals with Complex, Chronic Conditions - QUESTIONS

Model Description

1. Describe the "advanced health model" your community/organization has implemented. Please address the following:
    - Why is this model expected to have an impact on health equity and on individual and population health?
        - Advocate's CI began in 2002. At this time and through about 2010 a majority of the patients in our registries were commercial. Stepping into the MSSP in 2012 and the Medicaid ACE program in 2014 have enabled us expand our clinical quality measures to include the Medicare FFS and Medicaid populations. The number of patients in our registries has grown from approximately 400,000 to over 1,000,000 in 4 years.
    - How are you using health IT tools to support coordinated, integrated health and care including other objectives within the model? How are you bringing different data sources together under this model? What human services data is most impactful and what standards exist to support its use?
        - Advocate has worked with Cerner for the last 3 years to develop an enterprise data warehouse that integrates data from four different EMR systems, claims, eligibility, lab, and other systems.
        - The data warehouse (*HealtheIntent*™) serves as a common platform on which to build various programs. For example, our disease registry and a longitudinal patient record.
        - Most impactful or essential to this effort has been a need to develop an electronic Master Patient Index (eMPI). An eMPI is the key that links all of the member data together. Criteria based on the patient's name, gender, date of birth and probability algorithms to ensure that when data is linked it is done so appropriately. This is important for patient safety and ensuring data integrity.
        - The data platform and eMPI serve as the foundation on which to build other linkages for example with the Metropolitan Chicago Healthcare Council Exchange, our regional Health Information Exchange (HIE).
    - What impact have you seen from this model/how will you evaluate future impacts?
        - Since moving to the new registry system in 2014 we have seen an immediate lift in more timely completion of data measures. The registry system pulls data on

a daily basis from multiple inpatient and ambulatory electronic medical records. In 2014, real time performance feedback resulted in more proactive care and performance targets being achieved six to 10 weeks earlier in the year. Patients received needed interventions sooner and physicians were able to reach out to patients to develop plans of care or link them to care management programs.

- What is the current business case for this model? How will this model achieve sustainability?
  - Health Systems and communities are taking one of two general approaches to HIT. One approach is to have everyone on a common EMR system. The other, which we have taken, is to find a way to link patient data across the disparate systems.
  - Time will tell, but we believe this strategy is most sustainable for several reasons.
    - The healthcare market is consolidating. The ability to extract data from systems rather than replacing the hardware requires less capital and resources.
    - EMR vendors in hospitals, physician offices, and post-acute setting will continually change as each party within a health system or broader community make decisions in the best interest of their business unit as technology advances. It again saves capital dollars and also continues to promote competition among vendors.
- How are you engaging the individual as a partner in this model?
  - Individual EMR systems in our physician offices have patient portals. Patients may also view information and exchange messages with our providers on the hospital side through a portal.
  - The challenge again for us and others in the market is how do you bring this information together for patients so that regardless of if their primary care physician or specialist is employed by the health system, that they only have one place to log-in to see their information.
  - We are working toward this solution.
  - Having one portal for patients that shows a “longitudinal EMR.” This is an important patient satisfier and is important for patient safety. For example, they see messages from their providers in one place and a common medications and allergy list.
  - In time the tool becomes more powerful as new linkages are established for example with the regional HIE or a pharmacy chain partner. Where are not completely there, but that is the vision.

2. How are you partnering with stakeholders outside your immediate organization and discipline to support your model? What resources do they need to be successful? How did you engage leadership to obtain buy-in?
   - Three examples:

        - Metropolitan Chicago Healthcare Council – Advocate has taken a leadership role in working with other hospitals and interest groups to develop the regional HIE. Historical perspective was to hold on to the data as a strategic advantage. New mindset is that the value is not the data itself is it how you use the information. When Advocate stepped in as the largest health system in our area others followed.
        - Skilled Nursing Facilities (SNFs) – Advocate refers patients to over 100 independent SNFs. To better coordinate care we have identified about 40 SNFs as partners. LOS at these sites is 5 days shorter and patients have fewer readmissions.
        - Pharmacy Chain Partnership – Core to the partnership is the ability to exchange data. We are starting simple collection of flu vaccines. Should see an immediate lift in quality measure performance due to better reporting. In time we will expand to look at medication fill rates that will enable us to better support care coordination and improve patient outcomes.
    - Prerequisites in any partnership are like minded leaders and a sharing of a common goal. Resource requirements beyond capital are the staff resources both project management and IT to establish and maintain the connectivity and integrate the data into downstream systems.
    - Quick wins go a long-way to establishing buy-in. If you focus too much on the grand goal that is going to 2-3 years to get there it is hard to maintain momentum and keep leader internal and external engaged. Starting with the easier things like admissions, discharge, and transfer (ADT) information in a HIE versus clinical data is an example.

3. What have been the major successes and challenges in establishing this model, especially with respect to technology systems and supports? How did you address these challenges?
    - First it is recognizing that there is not just one model for HIT. Each organization has multiple interest groups. Hospitals, physicians, home care, post-acute, pharmacy, lab, etc.
    - Each business unit generally thinks about purchase decisions that are in the best interest of that unit and may not appreciate the broader objectives.
    - Establishing an HIT governance model across our health system where we bring together key operational and IT leaders has helped identify a common vision, prioritize projects and new data sources, and a set of new criteria for purchasing decisions.
    - This type of governance has application inside and outside the organization. Trade-offs at times need to be made from what is ideal for one interest group for a greater objective.

Opportunities and Barriers for Advanced Health Models

1. What privacy, governance, or other considerations must be addressed to enable data sharing across clinical and community/social service partners, including behavioral health?

- In building an enterprise data warehouse and enabling data exchanges data security and user permissions management becomes important. The complexity increases with the amount of data integrated, programs, and user groups. Adding sensitive data like mental health, substance abuse, HIV/AIDs, or community/social services like who is being referred for counseling, housing or food assistance programs adds another degree of potential privacy concerns if non-authorized users should view the information. Organizations need to be deliberate in how they design, grant, and review user privileges. Take Advocate for example, we have thousands of users today in our registry system—physicians, administrative staff, and care managers. We are adding other roles like CHWs employed by Advocate. Consider then partnerships we would have with a pharmacy chain where users are not employees of Advocate. Expand further to how we may want to share information with social services and behavioral health providers.
- As the web of connectivity becomes more complex organizations need to establish governing bodies that are reviewing policies and procedures about how and with whom information is getting shared and then ensuring that business units within the web understand their responsibilities for data security and privacy. Without appropriate management and associate education it is possible that patient protected and sensitive data will be inadvertently shared with those who it should not. This same principle applies to governance of data systems reaching beyond an organization's own employees to connectivity with independent community/social services and behavioral health providers.

2. What are key policy barriers at the local and national hindering broader adoption of this model? What are key policy opportunities that would enable this model to scale more broadly?
    - [Suggestions may be around how local, regional, and state HIEs set policies and also finding funding mechanisms that make sense. It is not an area that I can describe well though.]
3. What investments need to be made to ensure community based medical services and non-medical services can communicate electronically and collaborate effectively with other stakeholders?
    - A simple start before enabling actual data exchange is investing in systems that collect and regularly maintain information about community-based medical and non-medical providers. The classic example today is that Care Managers and Social Workers in the field each carry around a thick binder of resources. The issue is that these binders are out-of-date as soon as the information is printed. Unless there is someone continually monitoring what resources are available, their contact numbers, eligible populations, hours of operation, etc. the process of engaging community partners will be inefficient.
    - Organizations like Advocate will make investments in organizations and IT systems that gather and maintain these databases electronically. A better business model is one where multiple health systems, local health authorities, and social services

come together to fund the initiative. Such an approach will ensure that there is less duplication of efforts and gets more users involved with the system.
- An approach like this then naturally lends itself to discussions about how might actual patient/user data be best exchanged, what are the priority areas, governance oversight, capital and IT resource investments necessary. Those discussions are borne though from the community and social groups rather than large health systems just making assumptions or taking a go-it alone approach that ultimately fail because the community will not accept it. Health systems and local community leadership groups need to proceed with a degree of precaution because it is all too easy to "trip a wire" on a sensitive issue to the community or an advocacy group. An example may be if you wanted to systematically look at health disparities due to race or socioeconomic causes. It could raise some potential alarms among advocacy groups if they did not fully understand the purposes of why the data was being collected and how it was being used.
- We talk often in forums of IT policy and data exchange about infrastructure and investments, but most important is developing trust and going through the right process to engage key stakeholders.

4. What are the biggest hurdles to interoperability among health care, human services, and community systems?
    - The lack of a single identifier for health care makes it difficult to match data from various sources effectively and efficiently.
    - One suggestion may be simply that particularly if you look at local health agencies and community groups that they often have outdated systems. An example would be that they often cannot extract data in ways that are optimal to enabling data exchange. For example, limited data fields for extraction purposes or the formats in which the data can be extracted.
5. How is health IT used to identify and to support high risk individuals across settings, over time and what tools are utilized to inform social determinants information as available at the individual and data system level?
    - Examples:
        - Most risk-stratification tools today use diagnosis codes extracted from claims
        - As part of the Advocate/Cerner Collaborative developed the Inpatient Readmissions Risk Assessment Tool. Draws on data from the EMRs to determine a better predictive score. Another example would be the discharge tool to determine the most appropriate care setting after an inpatient admission.
    - Use of social determinants data is less common but beginning to be used.
        - Social determinant data comes in multiple forms
            - Demographics like race and language spoken and income and education level.

    - Information gathered from assessments like a patients level of engagement or activation level
    - Data available through other sources like member profiles from social media and the internet.
- Data availability from a variety of sources is become more prevalent. What is not well understood is of this data what really matters and leads to a stronger predictive value of high-risk. Advocate as part of the Cerner Collaborative is working to understand this and test new models.