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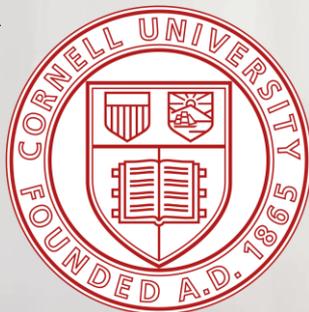
Conference & Exhibition | March 5–9, 2018

Las Vegas | Venetian – Palazzo – Sands Expo Center

HIMSS Inaugural Case Competition Assessing the Client's EHR System

Big Red Team

Sloan Program in Health Administration
Cornell University



ENGAGED

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

Conflict of Interest



Freddy Terrazas Escamilla, BS, MHA (Candidate)



Joseph De Los Santos, BS, MHA (Candidate)



Vishruti Vaikundan, BTech, MHA (Candidate)

Presenters have no real or apparent conflicts of interest to report.

Agenda



Overview

Population Health Measures

- Achieving Triple Aim
- Capturing Social and Behavioural domains

Patient Experience

- My eCare Patient Portal
- Care Navigators

Lean Six Sigma

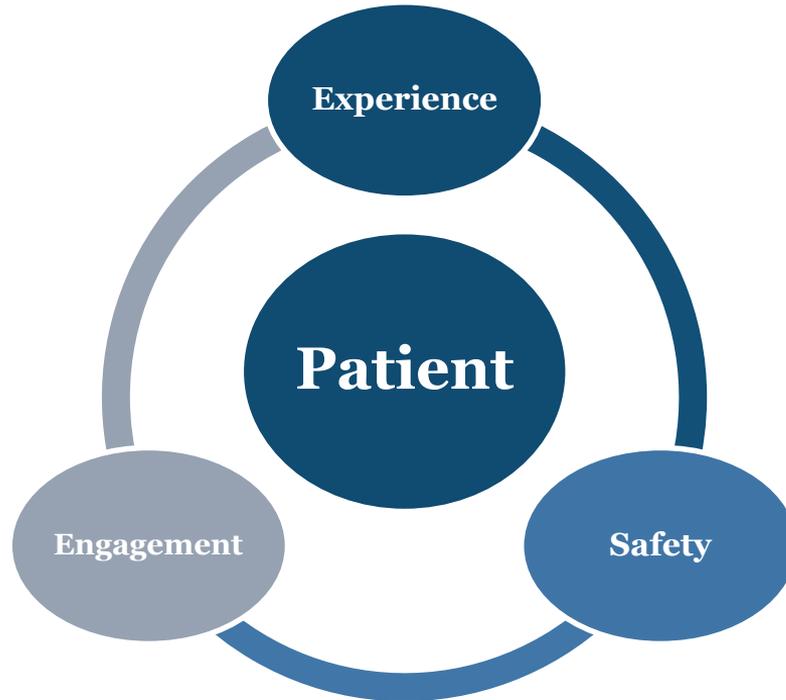
- Process Improvements
- Redesign workflow teams

Polling Question One

What is missing from the case?

- a. Financials
- b. Patients
- c. Competitive Analysis
- d. Magic Johnson

The case is missing the PATIENT....



Case Overview

Our client's leadership, based on eCare's success, has committed \$12 M each year to further technology enhancements to improve the foundation created by eCare.



eCare Success

Summary of Key Benefits Realized in 2009

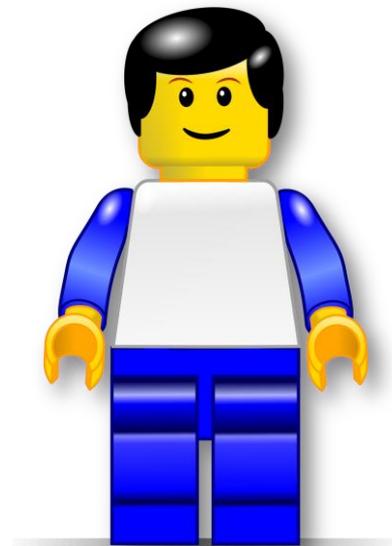
70%	\$9.4M	71 to 10 seconds	\$3.9M	87%	88,500
<p>Streamlined Care Processes</p> <p>7 out of 10 emergency departments improved their triage performance</p>	<p>Efficiency Benefits</p> <p>\$9.4M in savings due to reduction in nursing overtime and purchased labor</p>	<p>Turnaround Times</p> <p>Central scheduling average speed to answer was reduced from 71 to 10 seconds</p>	<p>Medical Records</p> <p>Hospitals' medical records savings of \$3.9M due to paperless environment</p>	<p>CPOE</p> <p>87% Computerized Physician Order Management for six hospitals</p>	<p>Enhanced Medication Mitigation</p> <p>88,500 potential medication errors were avoided due to bar-coding scanning alerts</p>

Problem Statement

“Given the current healthcare environment, what changes in eCare need to be implemented to adopt value-based care models of medicine through upstream determinants of health and patient experience in 2018 for our client’s Health System?”

John George

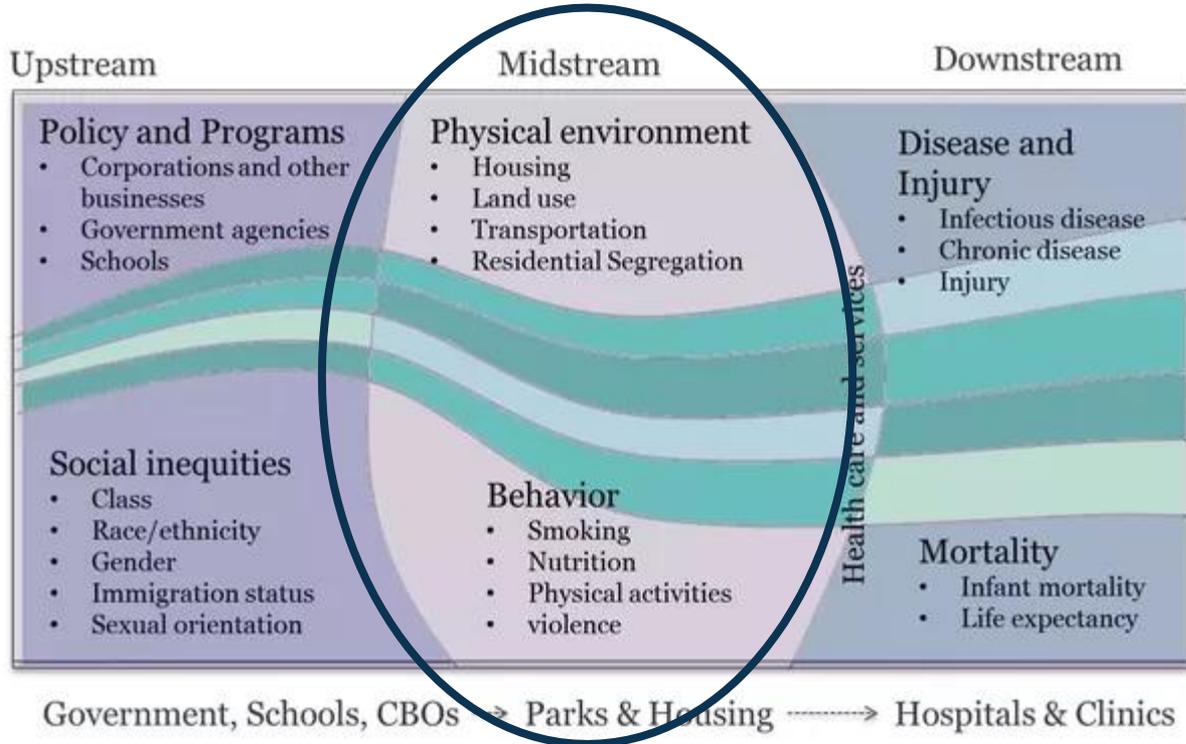
- Age: 54 years old
- Education: High school
- Race: Unknown
- Insured by: Client's Health Plan
- City: Ithaca, NY
- Low-middle income group
- Health History: Recently diagnosed as Type II diabetic, Chronic Hypertension





Population Health Measures

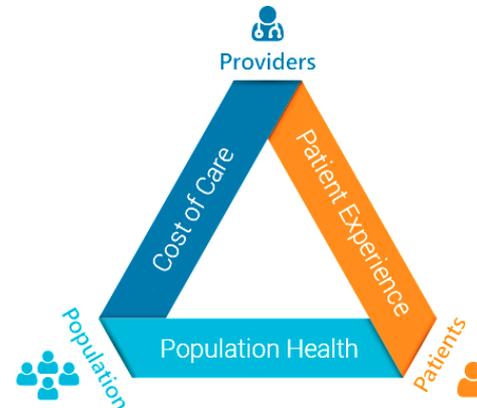
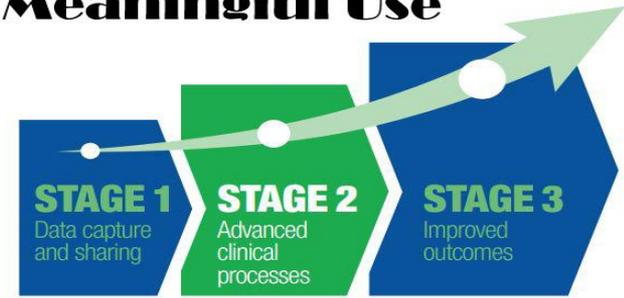
Upstream Determinants of Population Health



Triple Aim

- Unsustainable growth of healthcare costs and poor overall public health has prompted changes in the US in recent years.
- In response to the triple aim, the National Strategy for Quality Improvement in Health Care was started which aims to improve quality of health and health care by aligning public and private interests.

Meaningful Use



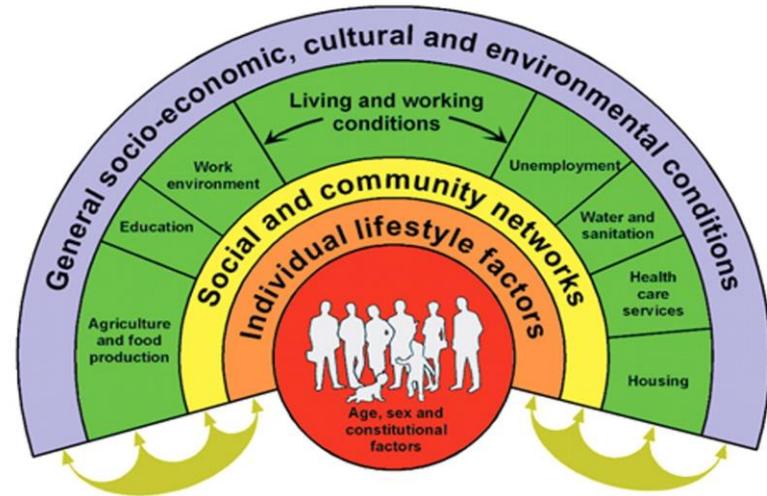
Triple Aim Achievement

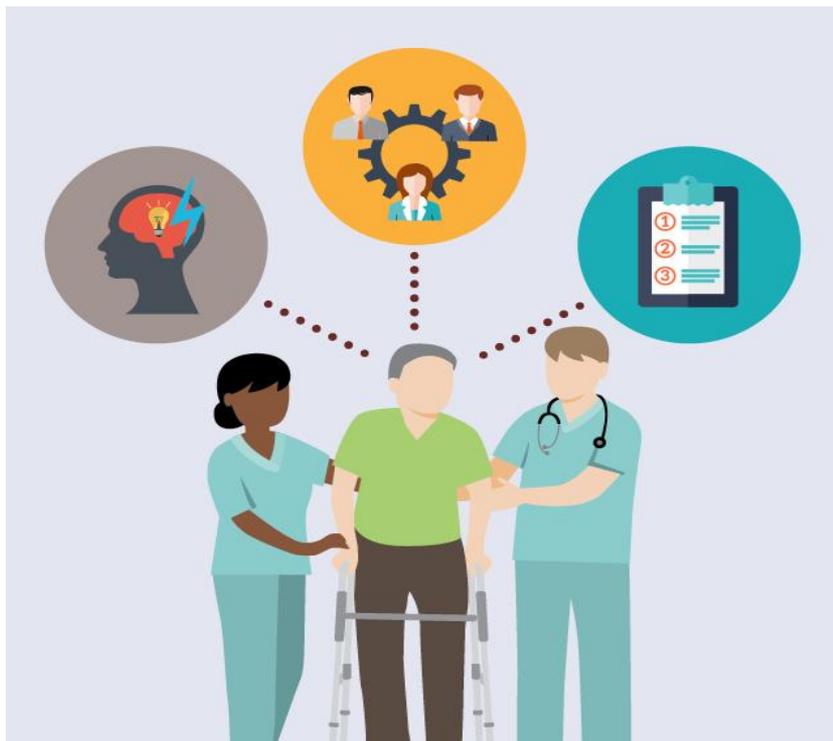
- In 2013, the client formed an ACO.
- HEDIS (Healthcare Effectiveness Data and Information Set) and QUEST (Quality, Efficiency, Safety with Transparency) measures could be adopted to achieve each aim step by step.

Proposed Baseline And Performance Measures For The "Triple Aim" In Accountable Care Organizations	
Proposed measures	
FIRST AIM: HEALTH OF POPULATION	
HEDIS: adults age 50 and older who received recommended colorectal screening	
HEDIS: breast cancer screening for females ages 40-69	
HEDIS: flu shot for adults age 65 and older	
HEDIS: pneumonia vaccination status for adults age 65 and older	
HEDIS: comprehensive diabetes care hemoglobin A1c controlled (< 8%) in adults ages 18-75	
QUEST: prevention of nearly 30 measures of harm (composite score)	
QUEST: observed to expected risk-adjusted mortality per 1,000 patients	
QUEST: composite score of evidence-based care for hospitalized cases	
SECOND AIM: EXPERIENCE OF CARE	
HEDIS: global rating of all health care	
HEDIS: global rating of personal doctor	
HEDIS: global rating of specialist seen most often	
THIRD AIM: COST PER CAPITA AND SERVICES DELIVERED	
Total cost per member per month (such as medical care and Rx drugs)	
Total cost per member per month, trend	
Admissions per 1,000 members per year (possibly with case-mix)	
30-day readmission rate (all causes)	
Emergency department visits per 1,000 patients	
Hospital admissions for ambulatory care-sensitive conditions (likely with case-mix)	
SOURCE Premier healthcare alliance. NOTES HEDIS is Healthcare Effectiveness Data and Information Set. QUEST is Quality, Efficiency, Safety with Transparency.	

Capturing Social and Behavioral Domains in eCare

- Institute of Medicine has recognized the need to include social and behavioral determinants of health as one of the goals to National Institutes of Health's list of identifying data elements for electronic health records.
- We recommend that the client identify the community needs for improving public health through these factors:
 - a. Education
 - b. Race and Ethnicity
 - c. Violent Crimes





Patient Experience

My eCare Patient Portal

- Current silos in information at the client prevent patients from having access to their health information and decreases transparency in patient care
- Expanding the eCare capabilities to capture metrics, empower patients and providers to give high quality Patient and Caregiver-Centered Experience will improve the client's position for long term success.

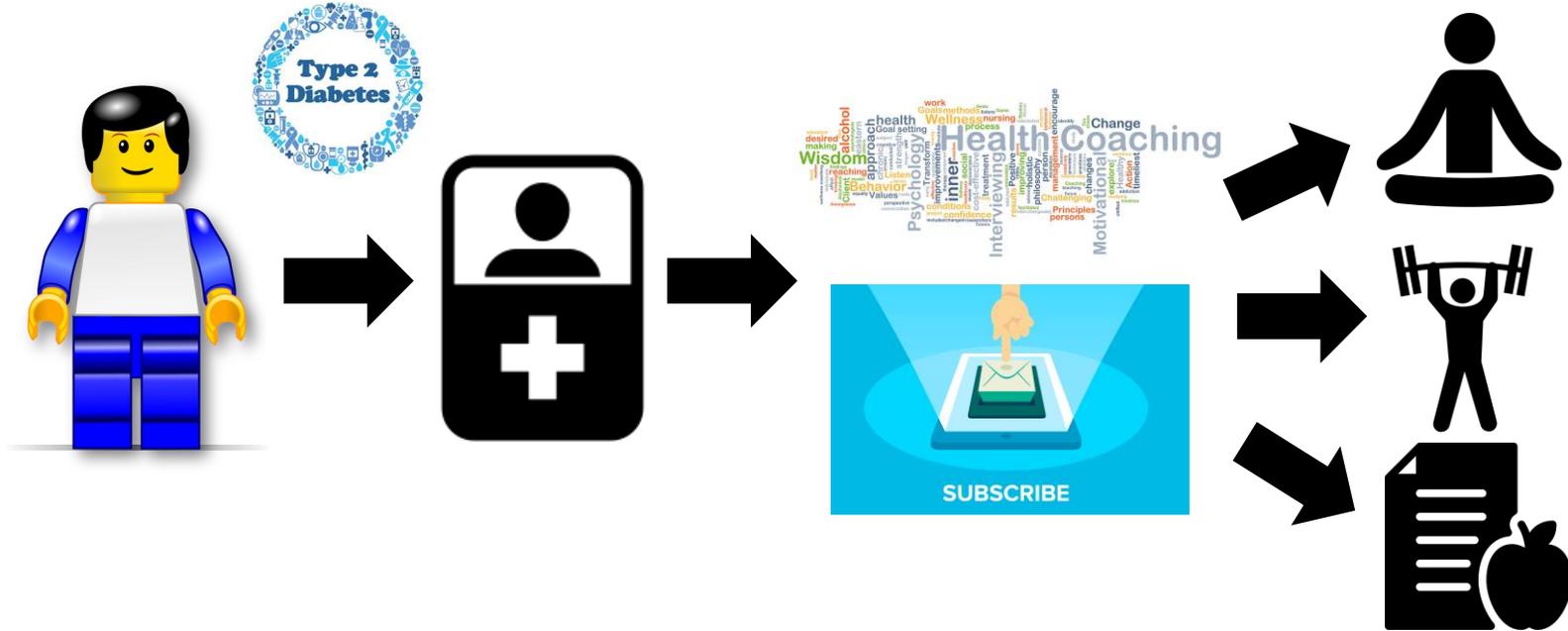


Utilization of Care Navigators

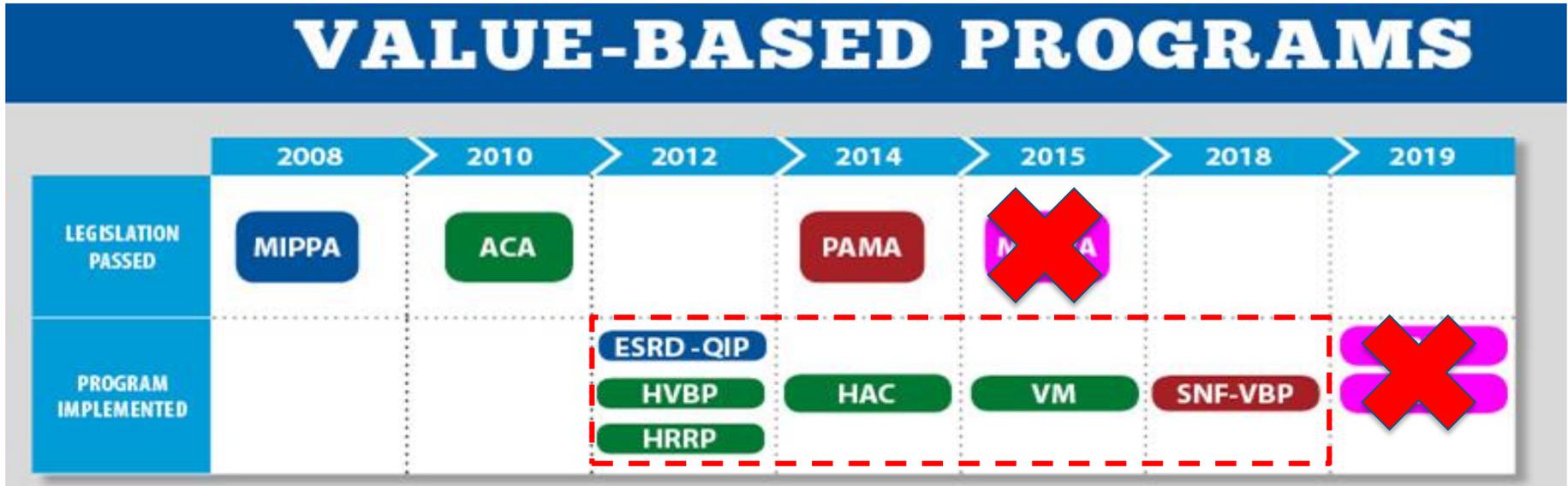


Care Navigators will assist in care coordination for patients and providers. The team will work with patients on chronic disease management and medication adherence.

eHealth Coach Programs



Patient Experience Reimbursement: VBP



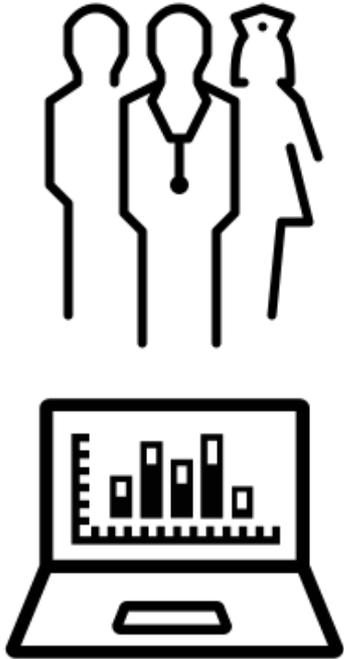
Reimbursement Trends towards Value-based Programs will further position the client's for long term success

*Please refer to Footnotes slides 23-30



Lean Six Sigma Process Improvement

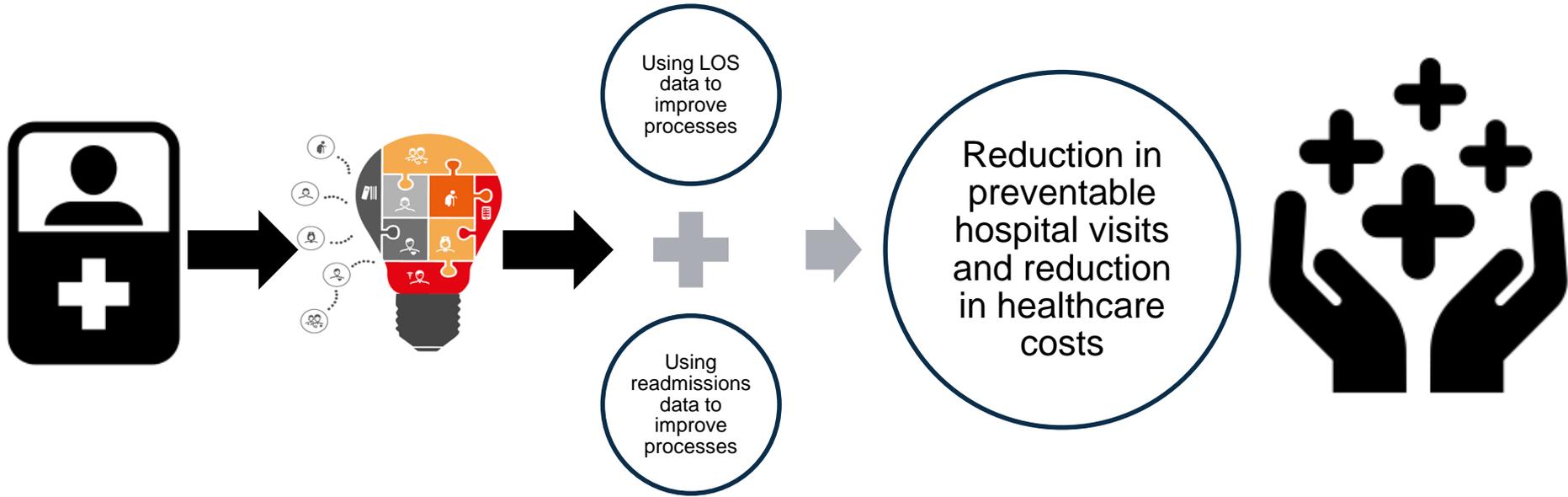
How will these systems be redesigned?



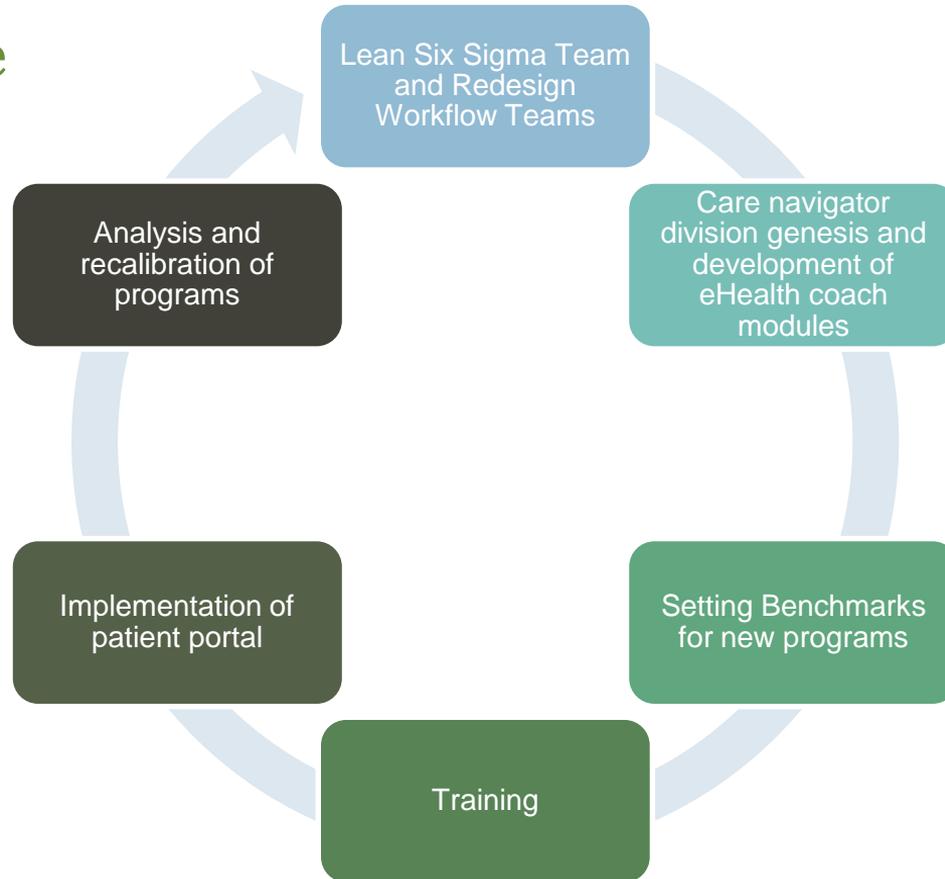
- Mobilize the Redesign Workflow teams that worked on the original eCare rollout to develop content for my eCare patient portal and care navigator system
- Engage frontline staff to work with Redesign Workflow teams to find gaps and ways to streamline current workflows to better align with the integrated patient portal
- Work with outside contractors to develop a eHealth coaching platform that will be subscription based



Lean Process Improvements



LSS Timeline





Financial Analysis

Financials

- The case does not mention how the \$12M for future investments will be deployed and neither does it mention the assumptions made when calculating the total cost of ownership (TCO) 10-year forecast.
- 15% of construction under progress cost is toward eCare improvement.
- The discount rate to value the cost of eCare improvement by end of 2010 is 7%



Client's Financials

2016 Audit Report

(In thousands)

(7) Property, Plant, and Equipment

The components of property, plant, and equipment, at cost, and the related accumulated depreciation at December 31 are summarized as follows:

	<u>2016</u>	<u>2015</u>
Land	\$ 150,700	158,226
Land improvements	129,730	120,737
Buildings	1,342,276	1,319,773
Fixed equipment	679,458	636,125
Major moveable equipment	1,785,180	1,605,392
Leasehold improvements	60,746	59,496
	<u>4,148,090</u>	<u>3,899,749</u>
Less accumulated depreciation and amortization	<u>2,391,745</u>	<u>2,222,374</u>
	1,756,345	1,677,375
Construction in progress	<u>127,475</u>	<u>176,152</u>
Total	<u>\$ 1,883,820</u>	<u>1,853,527</u>

Depreciation and amortization related to property, plant, and equipment totaled \$209,641 and \$195,655 for the years ended December 31, 2016 and 2015, respectively.

Significant construction projects in progress at December 31, 2016 are expected to have remaining project costs of approximately \$217,825 through 2020. The commitments include the costs to complete a vertical

- The construction in progress costs under the PPE for 2015 is \$176.15M and \$26.42M is assumed to be used for eCare improvement.
- The present value of eCare improvement costs as of end of 2010 is \$17.61M

Cost of Implementing the Recommended Practices

Recommended Practices	Cost per year for 2010
Patient Portal	\$432,000
eHealth Coach	\$25,000
Input SDH	\$1,500,000
Care Navigators	\$15,000,000
Other/Miscellaneous	\$75,000
Total	\$17,032,000

- The total cost is calculated to be \$17.03M

Is \$12M towards improvement required?

- PV of eCare improvement as of beginning 2011 is **\$17.61M** (from Client's 2016 Audit Report)
- The client was willing to spend **\$12M** towards eCare improvement
- Total amount spent on eCare 2011 improvement is **\$29.61M**
- Cost of implementing our recommendations is **\$17.03M**
- **Thus, the client gains \$12.58M**



Value

- MACRA and other incentive programs realize annual payment of \$570,189 in 2019 for 2017 performance year.
- Value based reimbursement from CMS for Medicare and Medicaid beneficiaries starting 2014.
- Demonstrating Stage 2 and 3 of meaningful use-HITECH Act using CEHRT to improve health outcomes.
- Capturing social determinants of health into eCare can reduce costs associated with other program implementation by a 6% reduction in salary.



Risk & Mitigation

The client's financial commitment to the recommendations for the creation of a care navigator division, eHealth Coaching platform and a patient portal application that will be attached to eCare

HIPAA issues related to having patient information on a web-based and app-based platform

Buy-in from patients and providers alike

Polling Question Two

If the client were to acquire another system could eCare maintain their current progress and our recommendations?

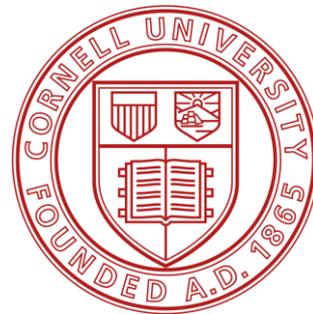
- a. Yes
- b. No
- c. Cannot Determine

Conclusion

- The client is lacking in a crucial component of Patient Experience in their current suite of services
- The development of integrated patient portal, creation of a care coordinator division and use of eHealth coaches can address this issue
- Incorporation of social and behavioral determinants of health can enhance the productivity of eCare and improve community's health.
- Current legislation provides significant financial support for elite patient experience platforms and improving public health that are integrated with technology.

Questions

- Freddy Terrazas Escamilla
 - fvt5@cornell.edu, www.linkedin.com/in/freddyvterrazas/
- Joseph De Los Santos
 - jjd289@cornell.edu, www.linkedin.com/in/joseph-de-los-santos/
- Vishruti Vaikundan
 - vv245@cornell.edu, www.linkedin.com/in/vishruti-vaikundan-bb872ba7/



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