

Applied Learning Project: Improving health care outcomes for patients with chronic kidney disease in Suffolk County

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Explanation of the applied learning project

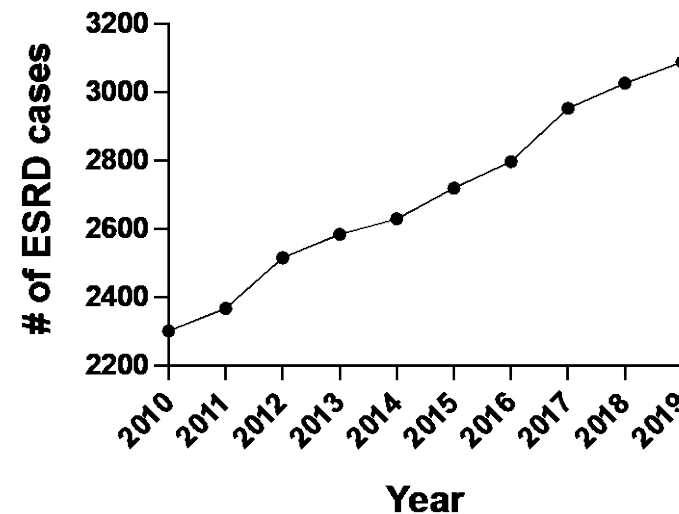
- The goal of the project is to improve health care outcomes in patients with chronic kidney disease under the umbrella of Stony Brook Clinically Integrated Network (CIN):
 - Establish standardized quality metrics
 - Multidisciplinary approach

Burden of CKD and ESRD

- CKD prevalence (United States) ~ 15% (37 mill.)
- ESRD prevalence (United States) ~ 725K
- Medicare ~ \$130 billion (~ 20% of Medicare FFS)
- ESRD (Dialysis) burden in NY state (CMS):
 - Prevalence ~ 45,000
 - Incidence ~ 7500 per year
- ESRD (Dialysis) burden in Suffolk County (CMS):
 - Prevalence ~ 3,000
 - **Incidence ~ 550 - 575 per year**
- Disproportionate burden of CKD/ESRD in AA/Hispanics

COUNTY	Prevalence (N)	Prevalence (%)	Incidence (N)	Incidence (%)
Kings	7,040	16%	1,120	15%
Queens	6,078	13%	972	13%
Bronx	5,040	11%	756	10%
New York	3,658	8%	502	7%
Suffolk	3,081	7%	568	8%
Nassau	2,986	7%	497	7%
Erie	2,073	5%	358	5%
Westchester	2,021	4%	306	4%
Monroe	1,856	4%	297	4%
Richmond	1,132	3%	200	3%

Suffolk County



Impact of ESRD on Inpatient (SB)

2018-2019	Inpatient Encounters	Mean LOS (days)	30-day Readmit Rate (%)	Mortality Rate (%)	Case Mix Index (MS-DRG Weight)
Comparative (SBUH)	60,361	5.8	10.9%	2.2%	1.75
ESRD	2,851	8.3	23.1%	3.5%	2.33
Diabetes	1,657 (58%)	8.5	24.0%	3.8%	2.40
Heart Failure (HF)	1,656 (58%)	8.9	26.3%	4.1%	2.36
(HF- Principal DX)	233 (8%)	9.3	25.7%		2.11
Diabetes & HF	1,122 (39%)	9.0	26.6%	4.2%	2.43

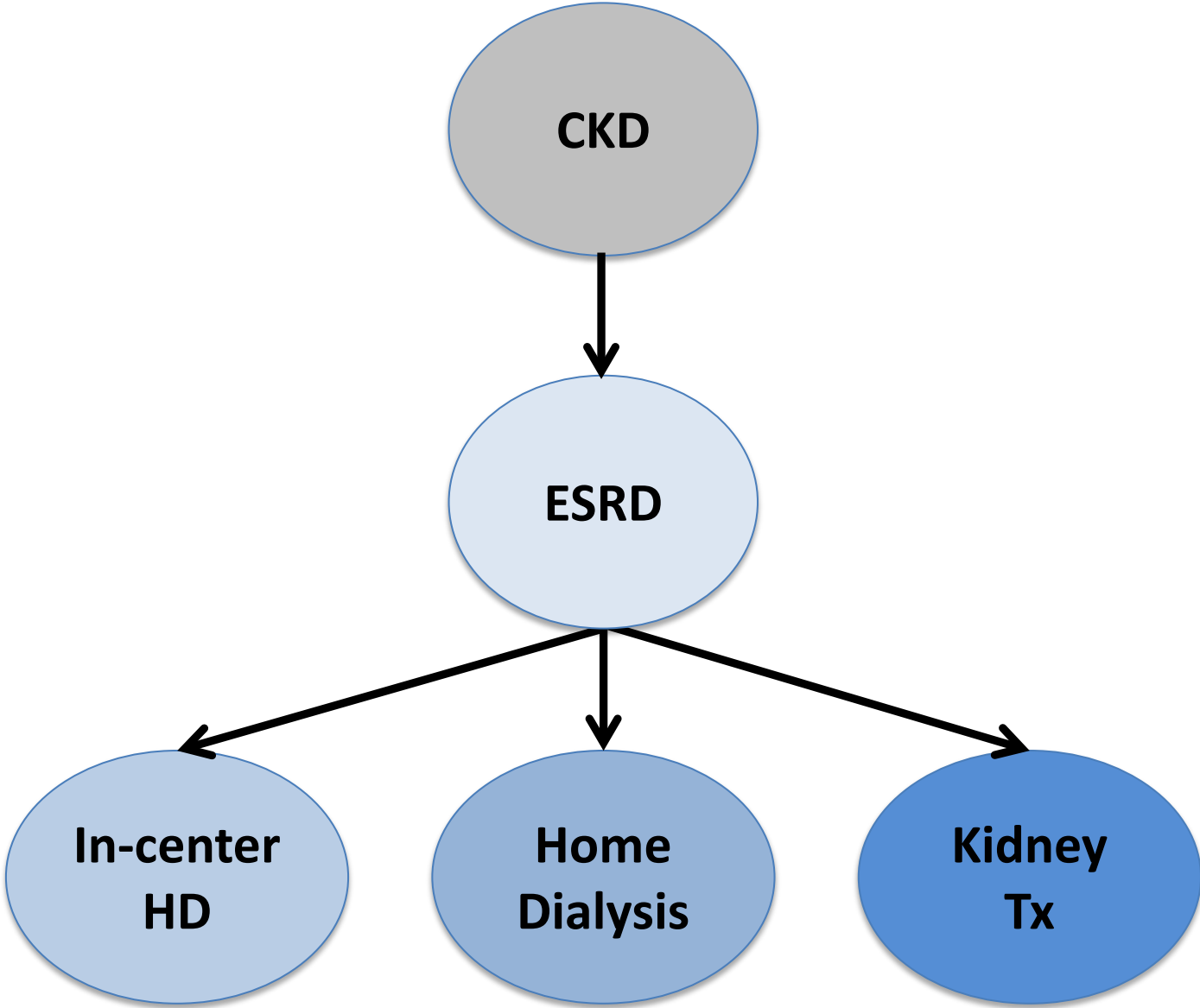
- ESRD accounts for ~5% of inpatient admissions
- ESRD patients with increased LOS, 30-day readmits, mortality, and CMI (MS-DRG Weight)
- ESRD patients with high burden on DM and HF outcomes.
- Disproportionate burden on minorities and low socioeconomic status

Downstream: Outpatient and Inpatient Referrals

Utilization of medical services:

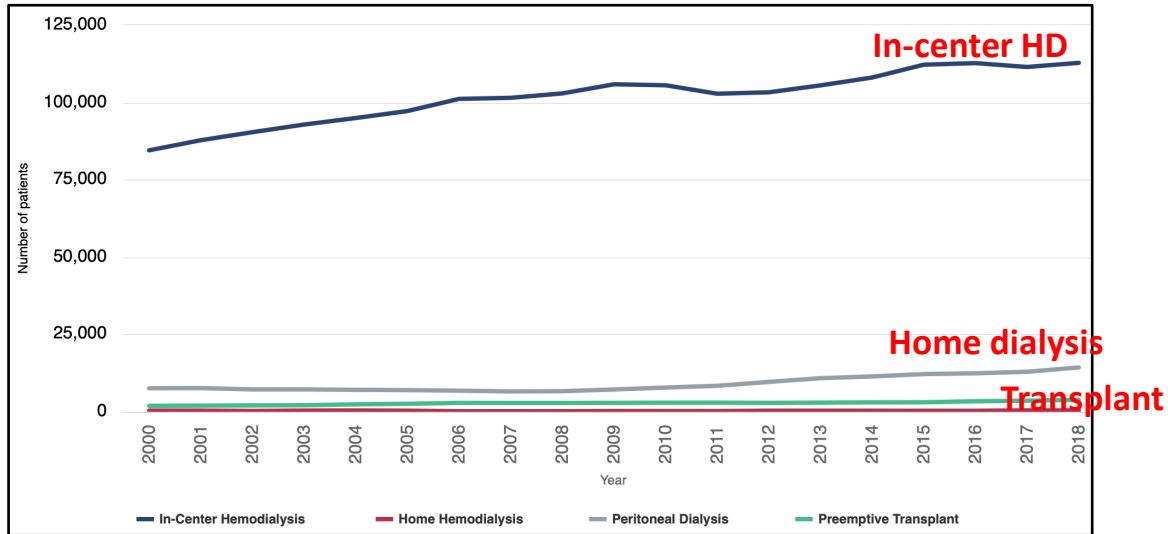
- General & Vascular Surgery, Int. Radiology (dialysis access) ~ 100%
- Urology (transplant referrals) ~ 75-80 Tx/yr
- Cardiology (Cath and CHF)
- CT Surgery (CABG)
- Endocrinology (DM)
- Critical Care Services
- Infectious Diseases

- **ESRD (2,851 patients) ~ 5%**
 - % with CHF ~ 58%
 - % with Ischemic HD ~ 52%
 - % with DM ~ 58%
 - % with CHF + DM ~ 39%
- **CKD (9,090 encounters) ~ 15%**
 - % with CHF ~ 56%
 - % with Ischemic HD ~ 59%
 - % with DM ~ 51%

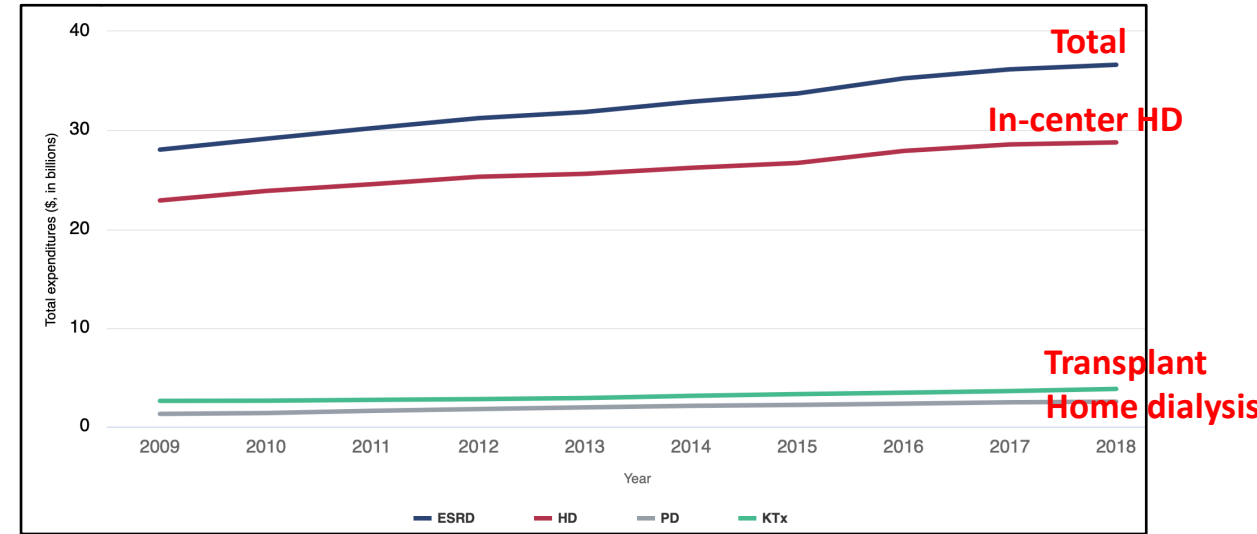


Rationale for Improving Kidney Health

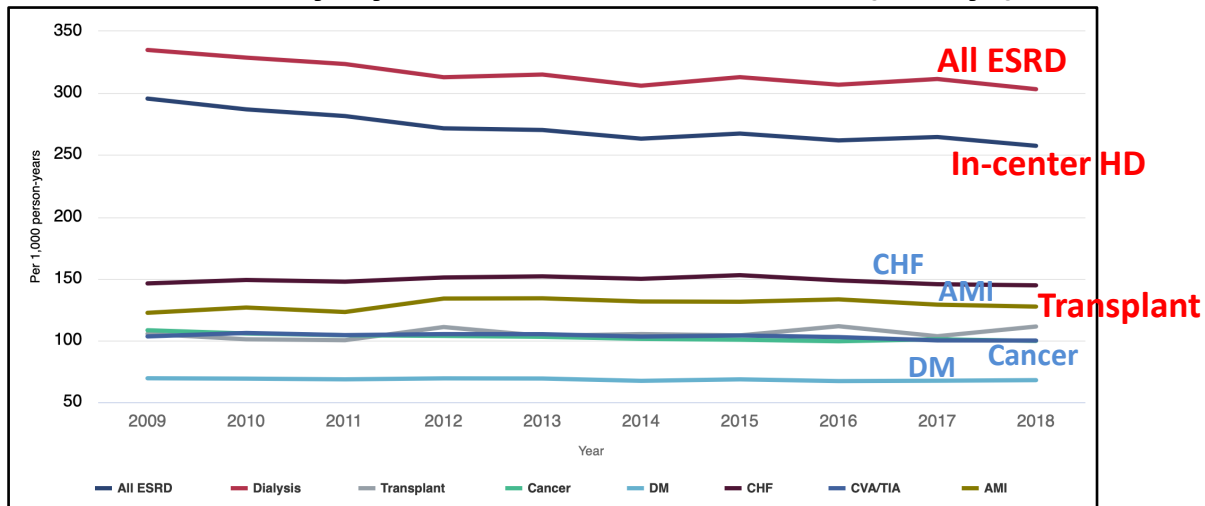
Annual Incident ESRD by modality



Total Expenditures by modality



Mortality by Medicare Beneficiaries (≥ 66yr)



1 out of 5 patients who begin dialysis to treat ESRD die within one year.³

- In-center HD > home dialysis/transplant in incident cases and total medicare expenditures
- In-center dialysis has the highest mortality among medicare beneficiaries

EXECUTIVE ORDERS

Executive Order on Advancing American Kidney Health

HEALTHCARE | Issued on: July 10, 2019



Aligning reimbursement rate with quality metrics:

- Home Dialysis
- Transplant

Sec. 4. Payment Model to Identify and Treat At-Risk Populations Earlier in Disease Development. Within 30 days of the date of this order, the Secretary shall select a payment model to test innovations in compensation for providers of kidney care services based on kidney patient cost and quality outcomes. The model should broaden the range of care and Medicare payment options available to potential participants with a focus on delaying or preventing the onset of kidney failure, preventing unnecessary hospitalizations, and increasing the rate of transplants. It should aim at achieving these outcomes by creating incentives to provide care for Medicare beneficiaries who have advanced stages of kidney disease but who are not yet on dialysis. The selected model shall include options for flexible advance payments for nephrologists to better support their management and coordination of care for patients with kidney disease.

Sec. 5. Payment Model to Increase Home Dialysis and Kidney Transplants. Within 30 days of the date of this order, the Secretary shall select a payment model to evaluate the effects of creating payment incentives for greater use of home dialysis and kidney transplants for Medicare beneficiaries on dialysis. The model should adjust payments based on the percentage of a participating provider's attributed patients who either are on home dialysis or have received a kidney transplant and should include a learning system to help participants improve performance. Greater rates of home dialysis and transplantation will improve quality of life and care for patients who require dialysis and may eliminate the need for dialysis altogether for many patients.

Kidney Care First (KCF) Model (CMS): Goals

- (1) Delay progression of CKD → ESRD
- (2) Support PD/home dialysis
- (3) Promote Kidney transplantation
- (4) Standardize and incentivize quality metrics in delivering health care
- (5) Reduce health care costs

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Adjusted Monthly Capitated
Payment (AMCP):

2

CKD Quarterly Capitated
Payment (CKD QCP):

3

Kidney Transplant
Bonus (KTB):

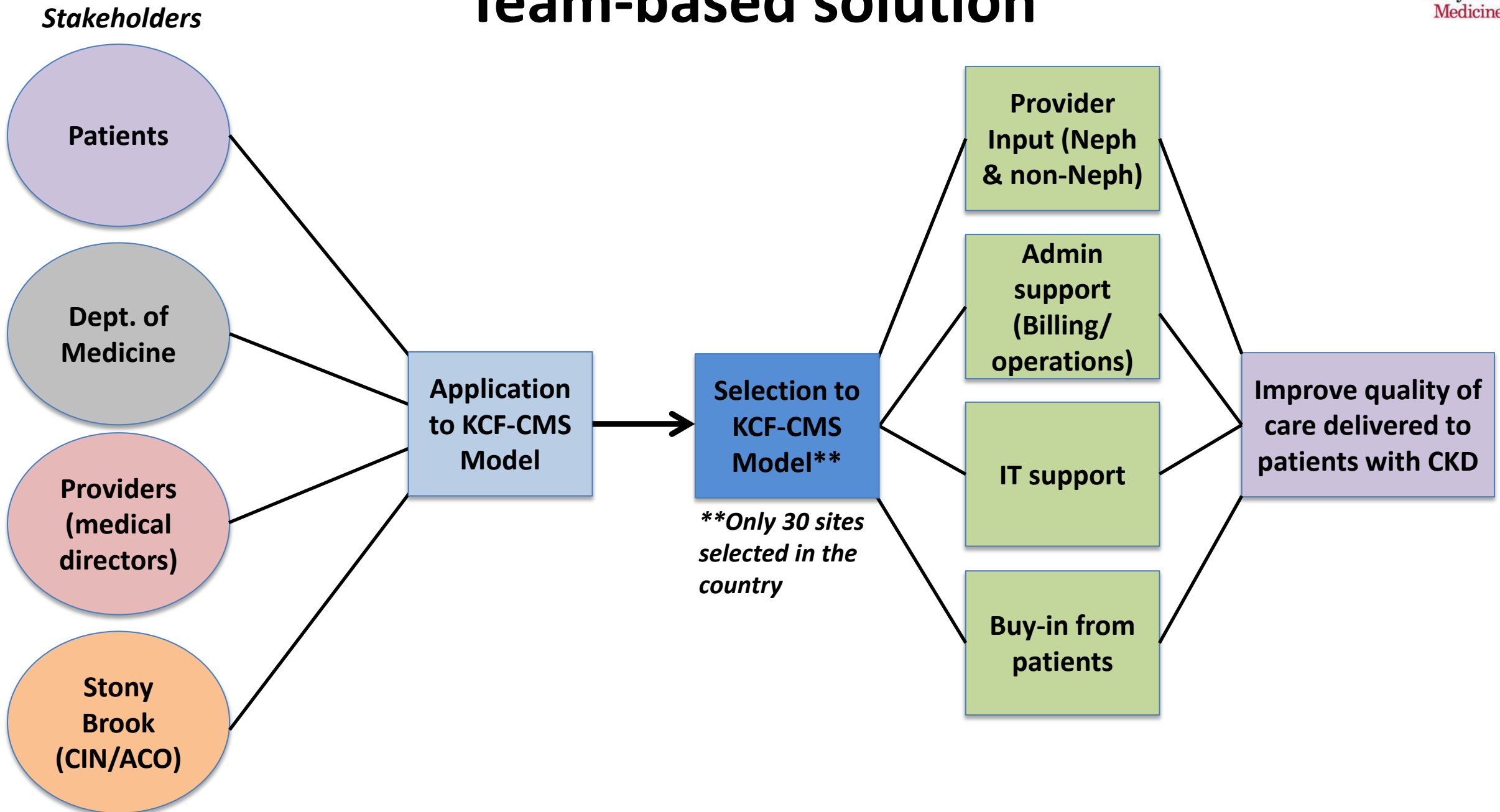
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Performance Based
Adjustment (PBA):

Current SB Outpatient CKD and ESRD

- **SB Kidney Center (Dialysis Clinic Inc./DCI)**
 - ~130 in-center hemodialysis patients
 - ~30 home dialysis patients
 - ~70 new dialysis patients annually from our faculty practice
- **~80-90 kidney transplants per year**
- **Opportunities**
 - SB Nephrology Clinic ~ 3200 patients
 - CKD 4-5 (20%)
 - 150-200 new start dialysis patients (inpatient & outpatient)
 - >50% are lost to outside the Stony Brook Network
 - Expanding access to kidney transplantation

Team-based solution



Obstacles

- Coordination and buy-in from all stakeholders
- COVID-19
- Implement, Coordinate, & Operationalize
- Time
- Multidisciplinary approach
 - Various fields (medical, non-medical)

Academy Outcomes: Impact

- Improve health care outcomes in patients with CKD in Suffolk County
- Standardize quality metrics in CKD across all nephrology practices under Stony Brook CIN
- Enhance health care outcomes while improving clinical revenue for the practice
- Serve as a model to expand access to care for patients with CKD while maintaining a standard of care in quality metrics

Final Thoughts and Reflections

- Learned tools in implementing and coordinating teams
- Words of wisdom from clinical leaders
- Negotiation: *“Place yourself on the other side”*
- Working with individuals with various strengths/weaknesses
- Self-assessment