How to Launch a Successful Value-Added Clinical Program with Office-Based Physicians and Payers to Diagnose and Manage Chronic Kidney Disease and Concomitant Conditions

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Disclosures

• Employee of TriCore Reference Laboratories
• Conflicts Of Interest: None
Objectives
Steps to implementing a laboratory initiated value based program for payers and providers.

**Step 1** Why: Disease burden & economic impact of CKD

**Step 2** Who: Defining the customer and their objectives

**Step 3** What: Delivery of clinical insights

**Step 4** So What: Measuring your success

**Step 5** Cycles of Improvement: Learning Lessons
Why Chronic Kidney Disease (CKD) Disease Burden

- 1 in 10 American adults
- 26 million have some level of CKD
- End stage renal disease (ESRD) is the ninth leading cause of death
- No cure for CKD, interventions are aimed at slowing progression to ESRD
- **97% of patients with stage 3 CKD are asymptomatic**

Why Chronic Kidney Disease (CKD) Economic Impact

- **$57.5 billion**
- **28%** of the Medicare budget is used to treat people with CKD and ESRD

### ESRD Costs in Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Medicare Costs</th>
<th>Non-Medicare Costs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>$12.03</td>
<td>$4.70</td>
<td>$16.74</td>
</tr>
<tr>
<td>2000</td>
<td>$13.8</td>
<td>$5.53</td>
<td>$19.35</td>
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<tr>
<td>2009</td>
<td>$29.03</td>
<td>$13.47</td>
<td>$42.50</td>
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</table>

Why in New Mexico
CKD Burden and Economic Impact

- Annual cost of care per patient with stage 3 CKD: $3,500
- Annual cost of care per patient with stage 4 CKD: $12,700

Rhodes Data: Stage 3 CKD

*Annual cost savings of preventing progression from stage 3 to stage 4 CKD

Why Chronic Kidney Disease (CKD) Complexity of Disease Management

- 150 pages
  - 45 tables
  - 22 figures
Why: Pre-Intervention
CKD Patients at University Clinics

- Sub-optimal Elevated Patient Risk Factors: N=19 (19%)
- Elevated Patient Risk Factors and Care Gaps: N=53 (53%)
- Optimal: N=6 (6%)
- Sub-optimal Care Gaps: N=22 (22%)

Random sample of 100 patients managed by primary care - May 2017
Why: CKD for Office Based Physicians
Targeted Population

Causes of Chronic Kidney Disease

- Type 2 diabetes: 42%
- High blood pressure: 28%
- Glomerular diseases: 7%
- Miscellaneous: 6%
- Unknown: 4%
- Type 1 diabetes: 4%
- Cystic/Hereditary: 4%
- Nephritis: 3%
- Tumors: 3%

Who - Defining the Customer & Objectives

The Payer

1. Make money on capitated contracts
2. High quality scores

1. Spend outpaces revenue
2. Poor direct optics of patient care & patient safety
3. Low quality scores drastically affect reimbursement

Customer Jobs

- What customer wants
- Customer Jobs
- Risks

Triple aim
1. Effectively manage healthcare spend across a broad population
2. Wide network/good access
3. Manage quality ratings

Who - Defining the Customer & Objectives
Office Based Primary Care Physicians

1. Help managing complicated patients
2. Tools that improve optics and save time
3. Integration with existing EMR

What customer wants

Customer Jobs

Risks

1. Poor optics for population health management
2. Financial risk with capitated reimbursement

Triple aim
1. High quality health care services
2. Improve patient outcomes

What: Laboratory Objectives

Demonstrate the clinical and economic value of providing longitudinal, real time, clinical insights for CKD patients using laboratory data.

- Aligning Objectives
- Defining *clinical and economic value*
What: Customer Objectives

**Defining clinical value:**
- ID early progression
- Optimize primary care monitoring
- Referrals to specialist
- Concomitant conditions

**Defining economic value:**
- Support disease management program
- Quality metrics
- Reduce total cost of care
What: Methods
Early Identification

Diagnose & Treat Comorbidities
Estimate Progression
Evaluate & Treat Complications
Preparation for Dialysis
Dialysis if uremia is present

1 2 3 4 5

≥90 60-89 30-59 15-29 <15

GFR (mL/min)

Progression

Kidney Transplant or Dialysis

Stage
What: Pre-Intervention Risk Population Using CKD-EPI

- MDRD equation in use for adult outpatients
- CKD-EPI recommended by National Kidney Foundation
- Reduced variation

MDRD vs. CKD-EPI: Prevalence of stage G3a CKD in New Mexico

<table>
<thead>
<tr>
<th>MDRD</th>
<th>CKD-EPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>64,289</td>
<td>53,647</td>
</tr>
</tbody>
</table>

Prevalence of stage G3a CKD in New Mexico
What: Methods
Risk Stratification

KDIGO Monitoring Guidelines

Guide to Frequency of Monitoring (number of times per year) by GFR and Albuminuria Category

- Normal or high G1: Normal or high ≥90
- Mildly decreased G2: 60–89
- Mildly to moderately decreased G3a: 45–59
- Moderately to severely decreased G3b: 30–44
- Severely decreased G4: 15–29
- Kidney failure G5: <15

Persistent albuminuria categories

A1: Normal to mildly increased
A2: Moderately increased
A3: Severely increased

- <30 mg/g <3 mg/mmol
- 30–300 mg/g 3–30 mg/mmol
- >300 mg/g >30 mg/mmol

What: Methods
Risk Stratification

KDIGO Monitoring Guidelines

<table>
<thead>
<tr>
<th>Persistent albuminuria categories</th>
<th>Description and range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Normal to mildly increased</td>
</tr>
<tr>
<td>A2</td>
<td>Moderately increased</td>
</tr>
<tr>
<td>A3</td>
<td>Severely increased</td>
</tr>
<tr>
<td>&lt;30 mg/g</td>
<td>30–300 mg/g</td>
</tr>
<tr>
<td>&lt;3 mg/mmol</td>
<td>3–30 mg/mmol</td>
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<tr>
<td>&gt;300 mg/g</td>
<td>&gt;30 mg/mmol</td>
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Guide to Frequency of Monitoring (number of times per year) by GFR and Albuminuria Category

G1 Normal or high ≥90
G2 Mildly decreased 60–89
G3a Mildly to moderately decreased 45–59
G3b Moderately to severely decreased 30–44
G4 Severely decreased 15–29
G5 Kidney failure <15

What: Pre-Intervention Risk Population Using CKD-EPI

- Improved accuracy for eGFR values between 60-120ml/min/1.73m²
- Identification of risk factors with eGFR values in normal range
- Change to CKD-EPI in December 2017
What: Methods

Gaps in Care

- Based on KDIGO
- Categorize patients into monitoring categories
-Patients who met monitoring
-Patients without monitoring

TriCore Data: eGFR Monitoring Frequency in CKD Patients

CHRONIC KIDNEY DISEASE ACTIONABLE
So What?
Interventions and Measures

Patient selection based on MCO enrollment file or provider panels

**Intervention**
- Access to data insights
- Clinic nursing staff review insights
- Actions based on insights: visits, referrals, additional laboratory follow up

**Measures**
- Early identification and staging CKD
- Identify high-risk patients for referral to specialist
- Gaps in recommended monitoring
- Describe comorbidities
So What?
Balancing Care, Quality, Financial

Clinical measures
- Early identification,
- improved monitoring,
- manage comorbidities,
- HEDIS

Economic measures
- Total cost of care, cost of disease progression, time saving for staff
Results
Chronic Kidney Disease Actionable Data
Cycles of Improvement
Learning Lessons

- High prevalence & high cost chronic diseases
- Adjust based on customer feedback
  - Early identification
  - Identify gaps in care
  - Care team/care management involvement
- Challenges:
  - Access to insights
  - Format supports custom to take action
  - Measure clinical and financial outcomes
Questions

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Aya Haghmad, PharmD
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