

## Project Template: Increasing Albumin Levels in Chronic Patients

**First**, look at your data from your most recent annual Lab Data Collection, Clinical Performance Measures (CPM) and Kidney Epidemiology and Cost Center Report (KECC report). If your dietician tracks nutrition and albumin rates using other methods (e.g. pre-albumin or subjective global assessment) include these reports in your review. Check to see if your facility albumin rate has trended upward or down over last year's reports. How do you compare to others in your geographic area? Look at your infection rates since these can be associated with lower albumin rates

**Next**, decide which people at your facility should be included in the team effort. Your dietician will be an invaluable member of this team. Patients living in a long term care facility, who have low albumin rates, will benefit from having their dietician included. If PD patients are having problems with low albumin rates you will want to include a PD nurse. Is your Medical Director aware of your albumin rates? Who else would you like to include?

**Now**, take a closer look at your clinic to see what is going on that might be impacting your rates. How many in your patient population have low albumin rates? Have all of your patients been evaluated by a renal dietician and the social worker each month? Have all of the patients had complete physicals in the last year? Are many in your facility on a fixed income? Does your facility have more seniors or pediatric patients in the population? Does your facility allow the patients to drink or eat while on dialysis? What are your infection rates? Albumin rates are hard to impact because the causes are often specific to the individual but patient tailored interventions can result in improvements. (See articles about albumin at [www.esrdnet15.org](http://www.esrdnet15.org))

**To get you started**, these are a few **barriers** that have been identified as potential causes of low albumin rates:

- Failure to track albumin rates
- Communication failure between dialysis facility and patient's regarding the importance maintaining a renal diet to support adequate albumin levels
- Patients lack knowledge regarding which foods are high in protein
- Lack of funds to purchase a healthy diet and/or additional supplements
- GI problems
- Dental problems
- Problems swallowing
- Poor appetite
- Depression
- Chronic infections
- Inadequate dialysis
- Acidosis

**Root cause:** Your CQI team should determine the root cause of low albumin at your facility.

Example: High infection rate for patients with CVCs.  
 See attached root cause document for more examples.

**Decide on an “AIM” Statement; what are you trying to accomplish?**

- 35% of patients will attain the CMS goal for Albumin, 4.0 BCG/3.7 BCP, by December 31, 2009
- If already meeting the CMS goal, set a six month goal to increase the number of patients attaining the CMS goal for albumin by 10%

**How will you measure improvement?**

Monthly measurement as QA monitor

**Example of potential measurement (if above goal is used):**

*Numerator:* # of HD patients meeting CMS albumin goals (4.0 BCG/3.7BCP)

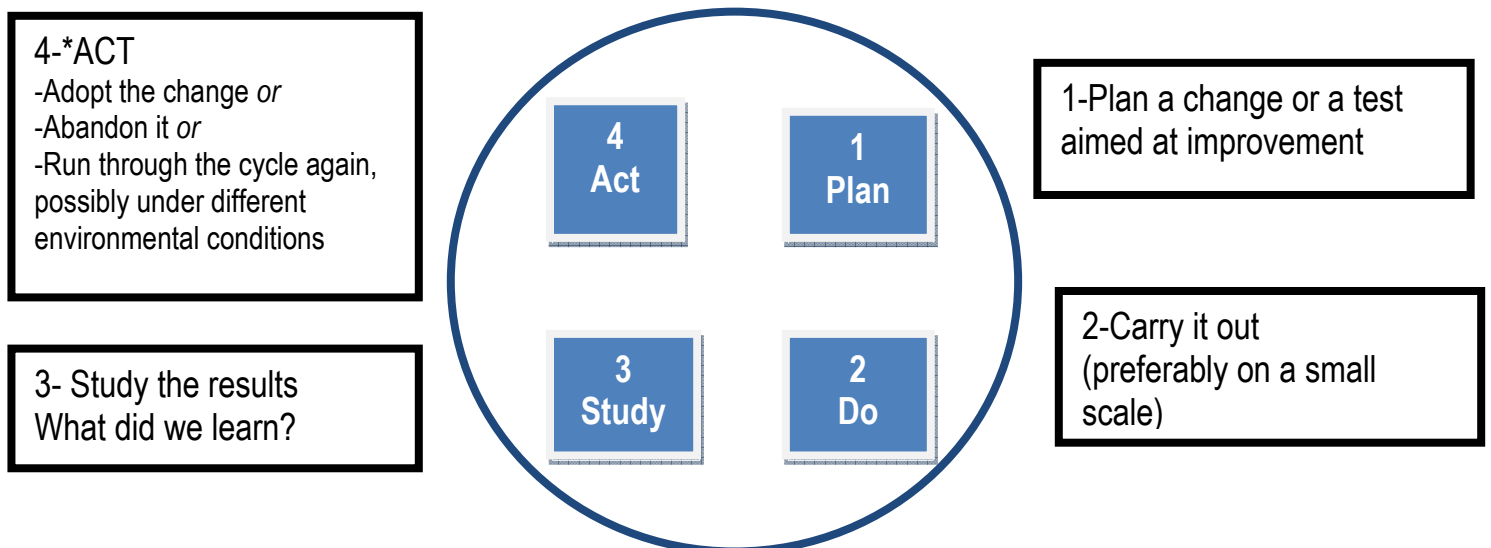
*Denominator:* total # HD of patients in your facility

*Numerator:* # of PD patients meeting CMS albumin goals (4.0 BCG/3.7BCP)

*Denominator:* total # of PD patients in your facility

**Brainstorm potential solutions based on barriers / root cause prioritized by your QI team.**

**Begin PDSA cycles and document your improvement**



Begin a new PDSA Cycle!

Facility Corp/Name/ Medicare Provider #: \_\_\_\_\_

Contact Person/ Facility Phone #: \_\_\_\_\_

**Root Cause Assessment  
Albumin**

Major Barriers to Adequate Albumin	Potential Root Causes of hypoalbumin	Potential to Change?	Problem identified at facility or with pt.?
<b>Patient-Specific Barriers</b>			
	Protein malnutrition (poor intake)	Y/N	
	Poor nutritional knowledge/inadequate training	Y/N	
	Poor appetite	Y/N	
	Decreased intake on dialysis days or during PD exchanges	Y/N	
	Assistance needed to shop or cook	Y/N	
	Cost of food/supplements	Y/N	
	Depression/Psychiatric illness	Y/N	
	Difficulty chewing	Y/N	
	Difficulty swallowing (dysphasia)	Y/N	
	Fluid intake (fluid overload)	Y/N	
	Early satiety due to volume of PD exchanges	Y/N	
	Decreased appetite due to glucose load associated with PD	Y/N	
	Mechanical impairments (or edentulous)	Y/N	
	Recent hospitalization	Y/N	
	Recent surgery → also fits into “inflammation” category	Y/N	
	Anorexia	Y/N	
	Cultural food preferences	Y/N	
	Taking meds with nutritional side effects, e.g., cathartics, chemotherapy, MAO inhibitors, diuretics, insulin, pain meds, steroids etc.	Y/N	
<b>Dialysis-Related (DR)</b>			
	Peritoneal Membrane Classification	Y/N	
	Peritoneal Membrane Loss Average 5-15 g protein lost /day	Y/N	
	Urinary loss	Y/N	
	Inadequate dialysis dose	Y/N	
	Exposure to reuse sterilants	Y/N	
	Water Quality	Y/N	
	Dialyzer membrane compatibility/incompatibility	Y/N	
	Dialyzer membrane porosity (may increase with reuse)	Y/N	
	Acidosis	Y/N	
	Exposure to endotoxins	Y/N	
	Loss of blood	Y/N	
	Protein loss during hemodialysis (4-8gms of amino acids lost/rx)	Y/N	
<b>Acute or Chronic Infection/Inflammation</b>			
	Access related infection: CVC, PD catheter, current vascular access (or previous vascular	Y/N	

Major Barriers to Adequate Albumin	Potential Root Causes of hypoalbumin	Potential to Change?	Problem identified at facility or with pt.?
	access still in place) → also fits into “inflammation” category		
	Peritonitis	Y/N	
	Skin ulcerations, decubitus ulcers, diabetic foot infections	Y/N	
	Bacterial or fungal infection	Y/N	
	Bronchitis, pneumonia	Y/N	
	UTI or bladder infection	Y/N	
	Tooth abscess	Y/N	
	Hepatitis B and C	Y/N	
<b>Inflammation</b>			
	Circulatory: Atherosclerosis, coronary artery disease, CHF, pericarditis	Y/N	
	Periodontal disease/ gingivitis	Y/N	
	Transplant rejection	Y/N	
	Stress	Y/N	
	Chronic inflammatory disorders: rheumatoid arthritis, autoimmune disorders	Y/N	
<b>Other potential causes of low albumin</b>			
	Burns	Y/N	
	Multiple myeloma	Y/N	
	Cachexia	Y/N	
	Ulcerative colitis	Y/N	
	Liver disease/cirrhosis	Y/N	
	Collagen diseases	Y/N	
	CKD	Y/N	
	Proteinuria due to Nephrotic Syndrome	Y/N	
	Sarcoidosis	Y/N	
	Endocrine disorders: PTH, glucagon, insulin, vit D <sub>3</sub>	Y/N	
	Malabsorption	Y/N	
	Acidosis	Y/N	

\* This list does not include every disorder that can cause low albumin levels in dialysis patients

# Increasing Albumin Resources

- Please contact us if you would like additional help developing a QI project that increases albumin levels

Phone: 303-831-8818  
E-mail: [info@nw15.esrd.net](mailto:info@nw15.esrd.net)

---

## Web-site links:

- - Educational information about albumin for patients and staff
    - <http://www.esrdnet15.org>
    - <http://www.lifeoptions.org>
    - <http://www.kidneyschool.org>
    - <http://kidneytools.com>
  - Daily (quotidian)home dialysis may improve nutritional status
    - <http://www.homedialysis.org>