

# Nephrology Referral Module

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## INTRODUCTION

Renal disorders are very common in the general population. Chronic kidney dysfunction afflicts around 50 million Americans of all ages, almost 600 million people worldwide, and these are just the advanced forms of disorders that have a much higher prevalence like HTN that involves 1 billion people and diabetes mellitus 500 million people being best examples. Nephrolithiasis another very common renal disorder involves about 10% of population, although some regions show prevalence as high as 20-25% and despite being considered rather benign encounters can lead to a large burden of suffering, financial losses and long term health complications like end stage renal disease and osteoporosis. A large portion of these ailments can be prevented, alleviated or treated successfully and therefore proper screening, early detection and appropriate advanced care are worthy goals.

Renal care remains rather inaccessible to many patients and patterns of unreliable detection of diverse renal ailments and multisystem manifestations of renal disorders are present in variable degrees in all medical care delivery systems, everywhere in the world. In USA alone these patterns lead to an immense expense, despite the fact that only 1 percent of Medicare enrollees have ESRD the costs associated with their care is about 8 percent of entire Medicare budget.

### Nephrology for Primary Care

Who? Why? When? How?

## OBJECTIVES

Renal care remains rather inaccessible to many patients and patterns of unreliable detection are present in variable degrees in all medical care delivery systems. To complicate things significant racial and socio-economic disparities in predisposition, disease burden and access to care inflict a disproportionate amount of suffering in different patient groups. The **initial evaluation** and **timing of referral** to specialized care, what defines proper follow-up and the distribution of responsibilities in between various members of the medical team are all rather confusing.

The purpose of my project is to design an **educational module** for primary care settings where providers in a broad primary care settings get to learn about renal disorders, their manifestations, special needs and timing of referral to specialized care. As part from the educational part the project is designed to produce a **"Referral Form"** - a formalized document that can be easily accessed and that contains important demographics and usual screening tests and prognosticators that would make referral for renal care easy, reliable, and reproducible. Hopefully this module will also make the idea that specialty referral should be done only after moderate renal disease became apparent less pervasive and find a way to pursue early care without overwhelming any parts of the medical system or increase unnecessary expenses.

## METHODS

A series of "Nephrology for Primary Care" lectures will be presented by attending nephrologists to various community settings likely to encounter patients with renal disorders. A short **survey** regarding renal disorders nature, presentations, common screening tools and baseline expectations will be administered before the presentation followed by the **teaching module**, the introduction of the **"Referral Form"** and at the end a repeat short survey re: scope and practice of renal disorders screening and referral. Finally the design of a yearly survey of the practices self-perceived quality of nephrology interactions- teaching, availability and timeliness of seeing the referred patients, quality and feed -back that returning patients give.

Initial Survey questions:

### What do kidneys do?

- Filter metabolism waste products
- Maintain salt and water homeostasis
- Control blood pressure
- Stimulate red cell production
- Are involved in glucose metabolism
- Control bone metabolism

### What is most common way to measure renal function?

- Estimate Glomerular Filtration Rate
- Measure urine output
- Measure Blood Pressure
- Measure Hemoglobin levels
- Measure serum glucose
- Measure bone density

### What is the normal range of protein excretion in the urine?

- 100 mg/day
  - 1000 mg/day
  - 10,000 mg/day
- When is hematuria normally present?
- Always
  - Sometime
  - Never

### How long abnormalities do have to be present to consider one has chronic kidney disease?

- 3 days
- 3 weeks
- 3 months
- 3 years

### What are common risk factors for CKD?

- Hypertension
- Diabetes
- Obesity
- Family History
- Bad Luck

### Nephrology Referral Form

Demographics:  
Age: \_\_\_\_\_ Gender: \_\_\_\_\_  
eGFR by KDIGO: \_\_\_\_\_  
eGFR by Cystatin C: \_\_\_\_\_  
Proteinuria: YES NO  
Hematuria: YES NO  
Renal imaging: \_\_\_\_\_  
Multiple cysts: YES NO  
Kidney Size: \_\_\_\_\_  
Single Kidney present: YES NO  
Transplant: YES NO  
Nephrolithiasis: YES NO  
Electrolytes Abnormalities: YES NO  
Acid-Base Abnormalities: YES NO  
Hypertension: YES NO  
Family History of renal disease: YES NO



### Nephrology Referral Feedback Form

	NEED IMPROVEMENT	NEEDS	NEUTRAL	DISAPPOINTED	VERY DISAPPOINTED
1. How helpful was this module?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. How easy was it to understand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. How clear were the instructions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. How useful was the information?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### HOW LIKELY ARE YOU TO RECOMMEND OUR PRACTICE

Very unlikely 1 2 3 4 5 6 7 8 9 10 Very likely

### WHAT IS YOUR GENERAL FEELING ABOUT OUR COLLABORATION



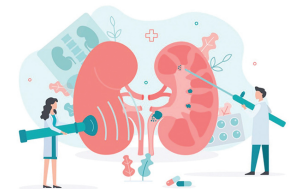
Do you have any suggestions that could help us improve our collaboration or patients experience?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## DISCUSSION

In many parts of the world healthcare delivery, structures and training are often the result of established tradition and long debunked grandfathered rules of engagement that create inconsistent quality and delayed care. It is therefore increasingly important to evaluate the effect of **knowledge transfer** and **facilitated quality improvement** and **facilitated quality assurance activities**. Frameworks like Plan- Do- Study - Act (**PDSA**) are well tested models. These educational frame-works must ensure that practitioners are well equipped with tools and skills to enhance care for a certain chronic condition affecting large numbers of their patients and such practices can become **"beacon models"**. Apart from decreasing the knowledge biases hence allowing diagnosis of overlooked medical problems, such beacon practices can lead to earlier detection of disease and the delivery of less fragmented care, even if specialists must be involved.

As renal disorders share many commonalities with other chronic ailments like diabetes mellitus, obesity and cardiovascular disorders in terms of risk factors, prevalence and management, educational initiatives looking to improve renal care can be collaborative, pooling resources to build a broader approach. In pursuing such education based strategies lessons can be derived from the experience of vast numbers of collaborators, allow different members of the team to become educators and eventually generate reliable and reproducible data, the so called "big data", that can allow system wide analytics and one day AI driven care at population and individual level. We believe that out education tool can be one appropriate opening for such large scale, system wide initiatives.



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