How to Utilize RPA's Advanced CKD Patient Management Toolkit

Introduction

Over 20 million Americans have chronic kidney disease (CKD). It is under diagnosed, undertreated, and awareness of the disease remains low, while the associated costs are significant. Chronic kidney disease (CKD) causes premature morbidity and mortality and lowers quality of life. Most chronic kidney disease patients tend to progress and worsen over time. CKD patients have a risk of cardiovascular disease that is 10 to 30 times higher than those without kidney disease.[1] CKD also disproportionately affects racial and ethnic minorities, among whom worse outcomes and higher costs of treatment are common.

Fortunately, the burden of CKD is not inevitable; it is possible to intervene at the patient, community and public health levels. Clinical practice guidelines, including the Renal Physicians Association's (RPA) Appropriate Patient Preparation for Renal Replacement Therapy and NKF KDOQI Clinical Practice Guidelines for Chronic Kidney Disease indicate that patients with CKD need to be identified and managed aggressively to decrease disease progression. Achieving this goal is a challenge to all healthcare providers.

The RPA, representing and serving the interests of nephrology practitioners in their pursuit and delivery of quality kidney health care, is uniquely positioned to address the challenge of CKD. RPA developed the Advanced CKD Patient Management Toolkit in 2004, revised it in 2006 and again in 2009 to assist health care providers with implementing clinical practice guidelines in practice and has tested it extensively to ensure its value and usability in nephrology practice. The Ten-Site Implementation Study of the RPA Advanced CKD Patient Management Toolkit, field tested the toolkit in ten, non-academic, private nephrology practices throughout the U.S. and assessed the utility of individual tools, and evaluated the impact on conformance to an advanced CKD guideline through patient chart abstraction.

The implementation activities were well-received at each practice and many of the sites have continued the continuous quality improvement process catalyzed by their involvement in this implementation study. This guide will help acquaint you with the activities conducted during the *10-Site Implementation Study's* intervention period. We encourage you to utilize this guide to assist you with applying the contents of the toolkit and enacting organizational, systems and policy change within your nephrology practice. It may seem overwhelming but when broken down into manageable pieces it is achievable and will enhance your practice operations and patient outcomes.

If you require technical support to facilitate implementation activities at your practice, please feel free to contact the RPA for assistance. We wish you success in your endeavors to raise awareness of chronic kidney disease issues within your practice and implement processes to improve the delivery of CKD patient care.

---

[1] Sarnak, MJ; Levey, AS; Schoolwerth, AC; Coresh, J; Culleton, B; Hamm, LL, et al. Kidney disease as a risk factor for development of cardiovascular disease: a statement from the American Heart Association Councils on Kidney in Cardiovascular Disease, High Blood Pressure Research, Clinical Cardiology, and Epidemiology and Prevention. Circulation. 2003;108(17):2154–2169.

Table of Contents

About the Guide*

How to Utilize the RPA Toolkit is intended to be used a companion piece to the Advanced CKD Patient Management Toolkit. The toolkit contains 16 sets of guideline-specific tools and measures designed to assist practitioners in managing chronic kidney disease (CKD) patients as their care becomes more complex, including the need to prevent or slow progression to end stage renal disease (ESRD). The tools were specifically designed to assist practitioners with achieving the goals of care outlined in the RPA's clinical practice guideline, *Appropriate Patient Preparation for Renal Therapy*. The tools were pilot-tested in two medium-sized nephrology practices in 2005 and demonstrated utility in improving adherence to established guidelines. The tools were subsequently refined and field tested in 10 nephrology practices throughout the United States from 2008-2010 to determine the widespread usability and value of the toolkit in improving patient outcomes.

RPA and the Duke Center for Clinical Health Policy Research (CCHPR) had the privilege of engaging with each of these diverse private practices located across the United States. RPA and the CCHPR were able to learn about their patterns of care and explore the use of these tools to overcome barriers to guideline adherence and thereby improve care processes for their patients with advanced (Stage 4-5) CKD. Having implemented the various tools in these test sites and experienced successes and challenges along the way, the goal of this guide is to leverage the combined experiences and lessons learned with these nephrology practices to make utilizing the tools more feasible for the broader nephrology community who wants and needs to demonstrate quality CKD care.

RPA understands that your practice has unique needs, limited resources, and diverse constraints. This guide serves as a reference tool throughout this entire process, and is not intended as a hard and fast set of rules. Included within are insights from the 10 field test sites and their suggestions for modifying the tools to incorporate them into your practice. Additionally, the manual describes how to select and implement the most appropriate tools to meet your specific practice needs.

RPA understands affecting change in a medical practice can be challenging, as it involves a complex system of inter-related elements and involves a number of individuals with unique jobs, skills, needs, training, and preferences. These tools were designed by a working group through a formal rigorous and scientific methodology to make it feasible to improve adherence to advanced CKD guideline recommendations.

These tools have been designed to be easy to use and adaptable for your practice to meet your unique needs and maximize the smooth and effective implementation of the guideline recommendations. They are based on established principles of process improvement. They do not require special skill or experience with quality improvement, only an interest in improving the outcomes of patients with CKD.

* **Disclaimer:** Goals of care and practice patterns may have changed since the publication of the clinical practice guideline, *Appropriate Patient Preparation for Renal Therapy* and the *Advanced CKD Patient Management Toolkit.* Please note that these tools are not a substitute for individual physician expertise and medical evaluation.

Why should your practice use the Toolkit?

"One of the most important things you can do for your CKD Patients"
– 10-Site Field Test Participant

Practices that took part in the 10-site field test reported the following outcomes:
- Improved involvement of non-physician health care providers in patient management
- Improved patient outcomes
- Improved patient satisfaction
- Improved communication of patient care goals to primary care physicians
- Improved documentation of services provided

The specific tools and the instructions for use in the Toolkit are based on established principles of process improvement. Included in the instructions are practical tips regarding optimal use. The approach offered here does not require special skill or experience with the methods of quality improvement, only an interest in improving the outcomes of patients with advanced CKD.

About the Toolkit

The Advanced Chronic Kidney Disease Management Toolkit was developed by the RPA to help physicians intervene early, and care for the expanding population of patients with advanced CKD. This effort has been coordinated with the National Institutes of Health National Kidney Disease Education Program.

The toolkit is designed for users to easily implement and follow evidence-based guidelines for management of patients with advanced CKD and to optimize care and achieve best possible outcomes. This set of tools is intended to act as a program that can add value to a practice by improving its performance.

The intended audience for this toolkit is a clinician/practice group wishing to improve the care of advanced CKD in their practices and in their communities. Generally, the principal users of this toolkit will be nephrologists. As providers, nephrologists will find the consultation and management tools to be especially helpful. As key opinion leaders, nephrologists can utilize the toolkit to promote education among their colleagues, help establish effective arrangements for patient co-management, and provide specific tools to referring physicians. However, the toolkit should also prove useful to non-nephrologists who, out of interest or necessity, may be responsible for various aspects of the care of advanced CKD patients.

See Executive Summary of RPA Clinical Guideline #3 in Physician Education Material section of toolkit (p. 21) or online at www.renalmd.org.

With this in mind, we have consulted with practicing physicians throughout the United States, including nephrologists, primary care physicians and other specialists involved in CKD care such as endocrinologists and cardiologists. The consensus of these health care providers was that the tools should be straightforward, require the least possible staff time to implement, and be easily integrated into decision support software and electronic health records (EHRs). While the core tools are paper-based, the instructions are relatively streamlined, and the intent of the tools may be achieved on various electronic platforms. The tools are available online at www.renalmd.org/TOC---Advanced-CKD-Patient-Management-Toolkit/. Users may reproduce these tools for use as is, or modify and customize the tools to suit their practice needs or preferences.

Each tool has been developed to address core areas from the RPA's clinical practice guideline, *Appropriate Preparation for Renal Replacement Therapy*, including:

1) Management of anemia;

2) Prevention of hyperparathyroidism, hyperphosphatemia, hypocalcemia, and metabolic bone disease;

3) Control of blood pressure;

4) Maintenance of adequate nutrition;

5) Management of lipid disorders;

6) Timing for the initiation of RRT and vascular access; and

7) Counseling for choices of RRT; patient rehabilitation; and psychosocial and economic preparation.

The toolkit was extensively pilot tested in 2005, and the clinical practice guideline was implemented through the use of these tools in two medium-sized nephrology clinics.

The following chart summarizes for each tool its intended user(s), purpose of the tool, and other notes on its use:

Tool Name	Intended User & Relationship	Purpose of Tool	Notes on Use
Patient Identification Assessment	Non-nephrology practices identifying CKD patients	Provides a quick view of current practices related to identifying and referring patients with advanced CKD	It can be performed by your office nurse or assistant. This is the primary care/non-nephrology practice audit tool.
Patient Management Assessment	Nephrology practices	Provides a quick view of your current practices related to management of patients with advanced Chronic Kidney Disease (CKD).	It can be performed by your office nurse or assistant. This is the nephrology practice audit tool.
Physician Education Material (includes CKD PowerPoint® presentation and Executive Summary of Guideline Recommendations)	Nephrologists	Promotes education on optimizing advanced CKD care by identifying patients early, using GFR, communicating effectively for co-managing patients, and introducing tools. Recommendation statements address management needs of patients with GFR <30 mL/min	
Awareness Letter	Nephrologists send to non-nephrology colleagues	Raises awareness of CKD, introduce concept of co-management, promote education	
CKD: Identification and Action Plan Poster/Card	Referring physicians/ Clinicians/ Nephrologists	Assists in identifying high risk patients. Identifies patients with CKD and their stage. Defines CKD. Communicates need for referral and co-management. This is an information and reminder tool that summarizes essential elements of care	Post in exam rooms, work stations - use to educate patients and staff about CKD

Tool Name	Intended User & Relationship	Purpose of Tool	Notes on Use
Referring Clinician Faxback Form	Nephrologists send to referring clinicians, faxed back to nephrologists	Clarifies reason for referral and ensures nephrologist receives important clinical data. This is the communication tool that identifies patients selected by PCPs for co-mgmt and triggers development of co-mgmt plan	Originates from nephrology office once patient is referred. Should be completed by PCP/referring physician then faxed back to nephrology office.
GFR Calculator	Referring physicians/ Physician extenders/ Nephrologists	Identify CKD patients on the basis of GFR instead of serum creatinine	Three formats: 1) Slide rule 2) Websites for PC use 3) Downloads for Palm/hand-held PC device
CKD Chart Flags	Referring Physicians	Plays unique role as identifier and reminder mechanism for CKD patients with co-management plan. Serves as reminder to address specific duties for patients with advanced CKD	Paper charts - stickers to place on outside of patient medical record; EMR - pop-up or CKD office template
CKD Post-Consult Letter	Nephrologist sends to referring physician	Communicate co-management plan to referring physician	Three formats: • One-page form clarifying respective roles of nephrologist and referring physician • Bulleted list to remind nephrologist while drafting his/her own letter • Website with "consult letter template"
Advanced CKD Algorithms	Physician/provider managing advanced CKD patients	Provide implementation guidelines at point of care	Algorithms for: • Anemia • Hypertension • Bone Disease • Nutrition • Lipids
Nephrology CPT Codes	Nephrologists and providers managing advanced CKD patients	Provide nephrology CPT reference codes and documentation guidelines	Laminated pocket card

Tool Name	Intended User & Relationship	Purpose of Tool	Notes on Use
Supplemental Tools (includes eDrugsRenal and PDA Downloads for Tools)	Referring physicians/ Physician extenders/ Nephrologists	Help provide dosage adjustments for patients with CKD and useful websites for PDA programs	1) Reference for downloading eDrugsRenal (a freeware program that recommends dosage adjustments) 2) General information regarding downloading PDA programs. Note: smart phone apps may also be available
CKD Patient Diary	Patient	Patient educated about their CKD goals. Diary involves patient in ongoing care and serves as a patient-initiated physician reminder	Originates with nephrology office. Should be carried by patients back and forth to their physicians.
Venipuncture Reminder Card	Patient	Remind patient and healthcare providers to protect arm veins in non-dominant arm for future vascular access	Instruction card with removable wallet card
Vascular Access Passport	Patient	Provide patient with information on catheter and vascular access placements	Multi-page, passport-sized booklet in a protective plastic sleeve

About the 10-Site Field Test

Based on the pilot test findings and observations, and feedback from users, the toolkit was revised in 2006. To demonstrate the widespread usability and value of the toolkit in improving patient outcomes, RPA in conjunction with the Duke CCHPR conducted a 10-site field test of the CKD Toolkit. The field test assessed care patterns and practices and explored what changes in processes were required to improve care. Additionally, the study evaluated the impact of the tools on improved conformance to monitoring guidelines within the categories of anemia, metabolic bone disease, hypertension, and nutrition. To conduct the field test, Duke CCHPR randomly selected ten nephrology practices from a self-selected volunteer pool in 2008. The ten sites were divided into two groups that were balanced on key characteristics such as practice size and socioeconomic composition of patient population. Five of these practices were randomly allocated to an early implementation group (Group 1), which consisted of a 6-month pre-implementation phase followed by a 6-month implementation phase. In the 5 remaining practices allocated to a delayed implementation group (Group 2), the baseline lasted 12 months followed by a 6-month implementation phase. The impact of the intervention was assessed in both groups.

Participating sites were able to customize and implement a continuous quality improvement process that they plan to continue following the completion of the study. The conclusion of the field test was that implementation of the RPA Toolkit provides a practical pathway to facilitate ongoing performance improvement and measurement efforts by community nephrology practices.

About the Improved Identification and Co-Management of CKD Patients Project

Following the completion of the 10-Site Field Test, RPA launched the Improved Identification and Co-Management of Advanced CKD Patients project in Fall 2009. This was preceded by a Stakeholders Conference that brought together leaders and representatives of nephrology, internal medicine, family medicine, as well as mid-level practitioners which served to identify CKD care goals and objectives, along with tools that would be useful in this context. The pilot project focused on two nephrology practices in Philadelphia and Chicago and their referring primary care physician (PCP) practices and tested the hypothesis that use of the specifically tailored PCP tools will result in better care as measured by enhanced identification of CKD patients, and measurable improvement in communication and satisfaction between nephrologists and PCPs. The project was designed to assess practice patterns in CKD patient identification, communication between nephrologists and PCPs, and CKD patient management, and assess the impact of tools on improved identification, communication, and patient care.

During the pilot project, select tools from RPA's *Advanced CKD Patient Management Toolkit* were modified for use by PCPs in collaboration with nephrologists. These tools were utilized in an effort to achieve better patient outcomes through improved identification, communication and co-management. The selected tools were: CKD Screening Protocol and Recommendation on When to Refer to a Nephrologist, CKD Identification and Action Plan Tool, Referring Clinician Fax Back Form, CKD Post-Consult Letter, Concise Guidelines, CKD Chart Flags, and CKD Patient Diary.

The project concluded in March 2011 and the lessons learned from the project have been woven into this manual.

Political Landscape

There are three classic motivators to changes in practice required to implement evidence-based best practice guidelines:

1) It is the right thing to do

2) We get rewarded or paid more if we do

3) We get penalized if we don't

All three are relevant in the current healthcare environment.

RPA believes that a significant downstream benefit of nephrology practices implementing the lessons of the toolkit will be an enhanced capability to meet quality measurement criteria. For example, in conjunction with the new ESRD Prospective Payment System (PPS), CMS has implemented the ESRD Quality Incentive Program (QIP).The QIP is the first pay-for-performance program in a Medicare prospective payment system, and is designed to monitor and improve the quality of care furnished to ESRD beneficiaries. While the QIP applies to care provided in dialysis facilities and is currently limited to ESRD, it is a probable harbinger for quality measurement efforts for nephrologists, and the lessons learned from the attention to goals of care for CKD would likely prove useful in successfully meeting future measurement requirements.

Additionally, due to the goals of standardized care implicit in the CKD Toolkit, it is feasible that using the tools may assist practices in meeting performance measurement goals included in the Physicians Quality Reporting System (PQRS), which uses claims-based, measures groups, EHR or registries to report quality measures for Medicare beneficiaries. Importing the tools into an Electronic Health Record (EHR) may assist practices in meeting criteria for the EHR Incentive Program for the Medicare and Medicaid programs, commonly known as Meaningful Use. This rule defines meaningful use (MU) of certified EHRs for the purposes of determining eligibility for financial incentive payments.

Getting Started

The successful toolkit implementation process involves an ongoing communication and assessment exercise with committed and engaged physicians and staff, led by a passionate, motivating and effective site champion identified by the practice.

There are a few key elements that are essential to success.

1. Ongoing program: view this approach as an ongoing quality improvement program, rather than a project with a finite start and end date.

2. Readiness to change: willingness on the part of all staff to modify the practice's processes and use new methods for the sake of improving care.

3. Buy-in from physician leaders and staff: involvement of all staff to make sure all are on-board, supportive and understand why the changes are being undertaken.

4. Enthusiastic site champion: dedicated change agent/quality champion to lead the effort to implement the tools and processes.

5. Defined local goals that account for geographic- and practice-specific characteristics of CKD care delivery.

6. Regular staff meetings about implementation to assess progress, troubleshoot problems, and planning for future activities related to toolkit integration.

Pre-implementation: 2-3 months prior to implementing tools
1. Conduct practice assessment
2. Select site champion
3. Engage all members of the practice
4. Select tools

Step 1 – Assess your practice needs to determine where to start

Required elements: pre-implementation assessment tool; individual patient medical records

A self-assessment should guide the implementation process. The practice should:

- Use this time to prepare staff for both the process and to assess the strengths and opportunities for improvement within your practice.

- Examine your practice's relationships with the referring primary care physicians.

- Explore the challenges and barriers that may exist in tracking a patient's progress in a paper-based versus an electronic medical record system.

- Improve upon existing protocols to streamline the process and to ensure all clinical guidelines are met for CKD patients.

The RPA studies found that the use of the simple pre-implementation chart abstraction tool, which can be completed by practice staff, provides a quick snapshot into your practice, capable of uncovering previously unknown areas in need of improvement. Moreover, the results of this self-audit, in and of itself, is a powerful motivator for change.

Step 2 – Select a change agent

Change does not happen in a complex system like a medical practice without focused, deliberate, consistent, and enthusiastic advocacy.

Practices that experienced the greatest success during the field test with implementing the tools and processes had a designated change agent - a site champion. The site champion should have a complete understanding of both front and back office activities, and must have the attention and support of the healthcare practitioners. An office nurse, nurse practitioner, physician's assistant, or other medical personnel may be ideally suited to serve in the site champion role. The site champion leads the implementation and ensures the tools are being implemented within the practice as intended, and also serves as a problem-solver. While a physician may serve as site champion, others in the practice may be better suited to the task due to physician time constraints. However, it is critical that the tool implementation effort have the support of the physicians in the practice. It may be helpful to designate one doctor as the "physician leader" to provide oversight of the tool implementation and encourage and support the process changes that will be required for successful implementation. The physician leader should work closely with the site champion and communicate regularly with other practitioners, as peer-to-peer consistent messages by a fellow practitioner has been shown to be very important to effect such change.

Well you certainly need a physician champion and we had that. You really want to get as much physician buy-in as you can.
Site Champion

Step 3 - Bring the staff together

Meeting with everyone at the beginning…we had our office manager and the nurse to harass us and everyone was gung-ho. You have to find a way to motivate people. [We had] ongoing regular meetings and worked on keeping folks motivated.
Physician Site Champion

While RPA understands that all practices have time constraints, results from the field test of this toolkit suggest that it is helpful to orient all staff members, including front-desk personnel and clinical staff, around the issue of quality improvement within the context of advanced chronic kidney disease. The participating practices reported that spending time up front discussing the tools ensured that all staff understood the protocols and agreed to the quality improvement process which allowed for smooth implementation. The practice as a whole needs to commit to the goals of the tools and support changes in protocols and practices.

At the kickoff meeting, review with all staff and practitioners:

1) How the practice currently addresses CKD care (current processes and environment);

2) Why the processes need to change (Patient Management Assessment tool results; other audit results, regulatory requirement, etc.)

3) The purpose and functionality of each tool, what it is designed to do and how it is designed to work (see introductory text for each tool).

It may be helpful to provide examples about each of the above items during the meeting:

a. To illustrate with a simple example, a pre-implementation patient management assessment may show that a practice adheres to blood pressure management guidelines at a level of 50%, due to patients either not at goal or missing values in the patient chart. Therefore, the practice would like to improve its process.

b. The current process may be mapped out along the lines of the following typical scenario: The practitioner may or may not note blood pressure on the patient's chart and may or may not write or dictate an office note alluding to this value and its treatment.

c. The staff and the practitioners involved with this process are briefed by the site champion on the new process and the tool(s) designed to implement such change, along with designation of who is responsible for each task - in other words, decide who is going to do what, when, and how. For example, utilizing the Algorithm for Management of Hypertension, all patients now have their blood pressure checked and recorded at each visit. Therapeutic lifestyle changes are advised, ACE or ARB are prescribed, and dosage intensified as appropriate.

As part of this process, the practice should define goals, such as 100% of patients will have blood pressure checked at each and every office visit and recorded in his or her chart. Following a continuous quality improvement process, measure-act-measure, allows practices to see changes in outcomes and modify their efforts. As noted above, it is useful to view the improvement efforts as an ongoing program, rather than a project with a finite start and end date.

If you have good people and you have them on board, then you're more likely to come up with good ideas on how to implement the toolkit.
Site Champion

Step 4 – Select the tools

The tools are organized in the following categories: assessment, physician implementation tools, patient implementation tools, and evaluation. The tools have been designed to accomplish specific tasks that are required to achieve the given goal of care. Use the tools in the order they are listed for maximum efficiency and effectiveness and review the introduction to each tool for helpful hints.

It is important to carefully consider your current processes and the environment in which they operate before adding on potentially conflicting new approaches (that is, these tools and the processes they represent). You will need a clear understanding of how your current process works - who is doing what, when and how.

RPA recommends that your practice review and consider all of the tools. Discuss each one and how it can assist your practice in meeting your patient care goals. Review the "Tool Look and Feel" for each tool's purpose and intended user. Devoting time up front can save you time later.

While utilization of the tools may require changes in practice operations and protocols, the field test experience revealed that this generally did not result in "more work" for practice personnel. Instead, the tools have been designed to enhance rather than impede patient work flow.

Once you have determined which tools to implement, begin making any necessary modifications (see p. 17 for tips). Begin training staff on how to implement the tools. You will also need to implement the processes that will make the tool use successful. For example, the faxback form will need to be sent out to all referring physicians when a new patient calls for an appointment. Make sure those staff that handle appointments are aware of this and that the referring physician's office is also made aware and has someone identified to handle the faxback at that end. There also needs to be a process in place for the forms that have been returned.

Using the Tools with an EHR

Since the tools are available electronically, they may be imported into an EHR as templates or alerts. As each EHR works differently, you should consult with your vendor to incorporate the tools for maximum efficiency.

During the field test and subsequent pilot test, practices with EHRs utilized the tools in varying ways. Some practices uploaded tools such as the faxback form and post-consult letter and created a template that physicians could easily complete. Some had EHRs that also allowed them to "fax" the letters directly from their computer back to the referring physicians. Practices reported that the EHRs made sharing lab results easier, as they could be sent directly from the patient's record in the EHR.

Other practices had EHRs that include nephrology CPT codes in a drop down menu. EHRs were also used to track patients whom received the CKD Patient Diary or to create a CKD report card that could be printed and given to patients.

To assist practices that are in the market for an EHR, RPA joined with the American College of Physicians and seven other specialty societies to develop AmericanEHR Partners, a web-based resource for EHR system selection and implementation. It includes an EHR Readiness Assessment Tool to assist practices in evaluating their preparedness for EHR implementation. Much like implementing a quality improvement project using the Advanced CKD Patient Management Toolkit, adopting an EHR requires a readiness to change. AmericanEHR also features an EHR Comparison Engine & Rating System to help practices determine which EHRs may be most appropriate for their needs and to evaluate whether the EHR can be modified with CKD tools, as well as how the EHR may interface with lab vendors. The resource is available at www.americanehr.com/Home.aspx.

Tool Tailoring and Modification

Your practice has unique needs, resources, and constraints. This means that in order to integrate the tools into your practice's existing systems, these tools may need to be tailored and modified.

All of the tools are available in applications such as PowerPoint and Word. You have the ability to tailor each tool to fit your needs, and also to adjust targets based on best available evidence.

The field test sites made a number of modifications to the tools. Provided below are some examples:

Algorithms
- Reduced the size of the algorithms so they would fit on one page. This page was then inserted into every CKD patient chart.

Referring Physician Faxback Form
- Used faxback form not only when a patient made an initial appointment, but also modified it to use when that referred patient was a "no show" at the nephrologist's office. This helped foster better communication between the nephrology and referring physician practices.

CKD Patient Diary
- Translated the Patient Diary into Spanish.

CKD Chart Flags
- Used an orange folder for stage 4 patients; blue for stage 5; yellow for waitlist vascular access patients; red for dialysis; green for transplants and manila for the rest of CKD patients.

Venipuncture Reminder Tool:
- Ordered rubber bracelets (in the style of LIVESTRONG™ bracelets) with the name of their practice on one side and Protect This Arm on the other that patients could wear on their dominant arms.
- Developed business cards with the venipuncture reminder information that patients could keep in their wallets or pockets.

CKD Identification and Action Plan Poster/Cards
- Enlarged and laminated the action plan card and posters. This helped users easily see the tool and preserved it for longer use.

Alternative Tools

There are alternative tools available online. For example, you can use clinical management tools such as Epocrates (www.epocrates.com) or UpToDate (www.uptodate.com/home/index.html) for your prescription management (instead of the toolkit's eDrugsRenal). Or, instead of the GFR calculator in the toolkit, you may use the CKD EPI & MDRD GFR Calculator (mdrd.com).

Additional tips for ease of use:

- If your practice is transitioning to an EHR, consider convening a workgroup with clinical staff and your IT department. This encourages the tailored development of tools that are both appropriate in an EHR and conducive to your practice's conformance to guidelines.

- If you have an EHR, you may want to develop a macro with all of the tools within the toolkit. The upfront time is outweighed by the backend ease of tool use.

- You may find that your patients don't bring their patient diaries with them on return doctor's visits. Consider keeping the same diary format but providing them as report cards and hand them to the patient after each visit, encouraging them to keep their health report card in a binder, documenting each visit. You may wish to make them wallet-sized, so patients can keep them easily accessible.

Tool Implementation

RPA recommends that you use the tools for at least six months before evaluating their usefulness or impact on patient care. You may find once you begin using the tools that they need adjustments in format or approach.

Implementation – at least 6 months
1. Implement tools as agreed upon
2. Discuss progress or roadblocks at staff meetings
3. Engage site champion with concerns and seek his/her assistance in problem-solving

The site champion should ensure the agreed-upon tools are in use in the practice and should be the primary point person for any concerns that arise. It is also helpful to meet periodically with the entire practice to hear various perspectives on the implementation and to discuss any necessary interim modifications.

Post-Implementation Evaluation

Post-Implementation – 6 months after beginning implementation
1. Conduct post-implementation evaluation (utilizing Patient Management Evaluation tool)
2. Survey patients regarding their experiences
3. Review findings with practice
4. Modify tools as needed
5. Implement additional tools as needed
6. Begin new implementation cycle

Once the tools have been implemented for at least six months, conduct another chart audit using the post-implementation evaluation tool provided in the toolkit to see if there have been any changes in patient care and/or outcomes. Additionally, that can serve as a good benchmark to review progress on any goals you have set for the practice. Finally, you may wish to survey patients about any of the patient tools in use. The Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services, provides sample surveys in English and Spanish at http://bphc.hrsa.gov/policiesregulations/performancemeasures/patientsurvey/givingsurvey.html. These surveys may be adapted with questions about patient tools, such as the CKD Patient Diary.

Once you have conducted this overall assessment, modify your approach and tool usage as necessary and continue to implement the tools as part of your quality improvement program.

Appendix – Advanced CKD Patient Management Tools

The following tools may be downloaded at no cost at www.renalmd.org/TOC---Advanced-CKD-Patient-Management-Toolkit/. The tools are divided into assessment, implementation and evaluation tools.

Assessment Tools
Patient Identification Assessment
Patient Management Assessment

Implementation - Physician Tools
Physician Education Material
RPA Clinical Practice Guideline #3 - *Appropriate patient preparation for renal replacement therapy*
Awareness Letter
CKD: Identification and Action Plan Tool
GFR Calculator
CKD Chart Flags/Stickers
Referring Physician Faxback Form
CKD Post-Consult Letter
Advanced CKD Management Flow Sheet
Advanced CKD Algorithms
Nephrology CPT Codes
Supplemental Tools
Development of a CKD Clinic

Implementation - Patient Tools
CKD Patient Diary
CKD Patient Education Resources
Venipuncture Reminder Card
Vascular Access Passport

Evaluation Tools
Patient Identification Evaluation
Patient Management Evaluation

Renal Physicians Association
1700 Rockville Pike, Suite 220
Rockville, MD 20852
(301) 468-3515; fax: (301) 468-3511
Email: rpa@renalmd.org
www.renalmd.org