Assessing the Educational Needs of Urologists Managing Patients with Castration-Resistant Prostate Cancer

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Needs Assessment Overview

Needs Assessment Objectives

Over 200,000 men are newly diagnosed with prostate cancer annually in the United States. With the likelihood of getting prostate cancer increasing with age, the advent of prostate cancer screening means cancer is being detected and treated earlier; however, approximately 5-10% of newly diagnosed prostate cancer cases involve advanced disease. In addition, some men may develop a recurrence of their cancer despite initial attempts at curative therapy, such as surgery or radiation therapy.

Ideally, doctors prefer to find the disease in its earliest and most treatable stages. But for men diagnosed with advanced prostate cancer, the prognosis is getting better all the time. There are a number of new and emerging treatment options available. In the last one to two years, an unprecedented number of new agents have been demonstrated to improve outcomes for patients in phase III trials.

With the increase in number and variety of therapeutic approaches, the role of the urologist in the treatment of castration-resistant prostate cancer (CRPC) patients has been expanded. It is critical that urologists remain engaged and knowledgeable on the management of advanced prostate cancer in the contemporary setting of a multitude of new agents becoming available to treat patients. For example, is there one approach, sequence or combination of treatments that improves outcomes better than another?

To ensure consistent, high-quality, evidence-based treatment of patients with CRPC, the American Urological Association (AUA) developed a Clinical Practice Guideline on CRPC that was released at the AUA Annual Meeting in May 2013. The role of the urologist in managing these patients is increasingly recognized as an important component of urologic oncology. When coupled with the knowledge of recently published, high-level evidence from trials demonstrating survival benefit in patients with CRPC, this clinical guideline will provide significant and timely information for urologists.

To better understand the educational needs of urologists related to the treatment of advanced prostate cancer, the AUA conducted an in-depth educational needs assessment of its domestic membership representing over 90% of U.S. Board Certified urologists.

The behavior of physicians and health care professionals depends not only on skill and knowledge, but also on the clinical environment and the forces at play within that environment. For physicians to change, systems and stakeholders must also change. This needs assessment was designed to:

- Summarize current literature, consensus statements, guidelines and research related to the early detection and treatment of advanced prostate cancer
- Develop tools to assess the knowledge, attitudes and practice gaps of those managing advanced prostate cancer patients
• Assess the knowledge, skill and/or attitude gaps of individual learners related to the early detection and treatment of advanced prostate cancer
• Identify optimal change strategies and the resources to close the identified gaps
• Identify barriers to change at individual and system levels
• Determine how various factors, including systems factors, work together to accelerate or impede physician adherence to best evidence

Funding for this needs assessment was provided by an educational grant from Astellas Scientific and Medical Affairs, Inc. and an educational donation from Amgen, Inc.
Needs Assessment Methodology

Assessment Methods

The following provider-focused needs assessment methodology was designed to inform the development of educational interventions to provide optimal impact on educational, behavioral and clinical outcomes. All needs assessment methods are designed to reflect the diversity of the urology practice settings in which care is provided.

The CRPC Guidelines Panel appointed two leading urologists to collaborate with AUA in the development of the qualitative and quantitative measurement tools for this needs assessment. These tools focused on measuring physicians’ current knowledge of new and emerging therapies and guidelines.

Literature Review

The AUA reviewed and summarized the 500 plus page evidence report developed by the Knowledge and Evaluation Research Unit, Mayo Clinic for the AUA CRPC Guideline Panel. The development of the full evidence report and the guideline was funded entirely by the AUA with no support, financial or otherwise, from industry. Both the summary and comprehensive report, with evidence table and complete list of references, are available upon request from the AUA Guidelines Department.

One-on-One Interviews

The first phase of research consisted of 20 in-depth interviews conducted with urologists in April 2013, prior to the release of the AUA CRPC Guideline (released in May 2013). These interviews were conducted by telephone, each lasting approximately 30 minutes; participants were compensated for their time. Interviews targeted physicians who manage patients with CRPC in the United States. The purpose was to identify key issues and influences on clinical behavior and practice management. Interviews helped to identify touch points in the diagnosis and management of advanced prostate cancer, as well as explore practice management issues that may impact therapeutic decision-making.

Focus Groups

Following the interviews, focus groups were conducted to further explore the needs of urologists in a group dynamic setting. Four focus groups were conducted at the 2013 AUA Annual Meeting, May 4 – 8, in San Diego, California. Each focus group lasted approximately 90 minutes; participants were compensated for their time. Participants were asked to respond to interview findings, and the data collected assisted in the online assessment tool design.

Assessment Tools

The AUA administered an online survey to approximately 9,000 domestic members. Assessment tools were used to identify gaps in knowledge surrounding the early detection and treatment of
CRPC. Assessment tools also measured knowledge, attitude, competence, practice, barriers to change and learning style preferences.

The components of this needs assessment relied upon progressive disclosure. Responses from the interviews and focus groups guided the development of the assessment tools. At each stage, the AUA refined the assessment tools based upon previous results as part of our continuous improvement process. All needs assessment methods reflect the diversity of the urology practice settings in which care is provided.

Survey invitations were sent out on July 12, 2013, and follow-up reminder email invitations were sent out to those who had not completed the survey on July 19, July 25, and July 29, 2013, just over one month after the release of the AUA CRPC Guideline (released in May). The survey was closed on August 5, 2013. A total of 1,051 surveys were completed for a total response rate of 12%. A total sample size of 1,051 is accurate within 3.08% at the 95% confidence level.

**Analysis and Reporting**

The AUA performed a comprehensive analysis of the data gathered and assessed the educational implications of the data. In this final report of our findings, all components of the needs assessment are covered and provide a research-based educational plan for urologists that includes:

- Learning objectives based on identified gaps
- Methods to address the gaps identified
- Learning formats preferred by urologists
- Barriers to best practices at individual and system levels
- Regional and socioeconomic variation in response
- Outcome strategies to measure behavior change, including knowledge, skill and attitude that improve patient care

Findings from this needs assessment, including the methodology, will be reported to the CME community at large through journal publication, presentations at meetings and postings on appropriate websites. The AUA intends to share these findings with all appropriate specialty groups so that this needs assessment may inform the groups’ educational planning.

**About the AUA**

The American Urological Association (AUA), founded in 1902, is the premier professional association for the advancement of urologic patient care, and works to ensure that its 20,044 members are current on the latest research and practices in urology. The mission of the AUA is to promote and support the highest standards of urological clinical care through continuing professional education of urologists and other members of the urologic health care team, thereby enhancing their clinical proficiency and performance in order to improve patient outcomes. The AUA has been accredited by the Accreditation Council for Continuing Medical
Education (ACCME) to provide continuing medical education for physicians since 1977 and was awarded accreditation with commendation in 2008.

The AUA has demonstrated experience assessing the educational needs of urologists. Most recently, the AUA completed a collaborative educational needs assessment “Managing Long-Term Outcomes for Kidney Transplant Patients: An Integrated Needs Assessment.” An abstract highlighting this study was accepted at the 2012 CME Congress in Toronto. Additionally, a presentation will be featured at the 2013 Alliance for Continuing Education in the Health Professions Annual Meeting in San Francisco, California.
Methodology

The qualitative research conducted for this needs assessment consisted of two methodologies; one-on-one telephone interviews and focus groups.

A total of 20 one-on-one telephone interviews were conducted in April 2013 with urologists from the United States who currently treat patients with CRPC. Each interview lasted approximately 30 minutes, and all participants received a $150 honorarium for their time.

In order to gain additional qualitative data on the same topic areas in a group setting, four focus groups were conducted at the 2013 AUA Annual Meeting in San Diego, California. Each focus group lasted 90 minutes, and all respondents who participated were practicing urologists from the United States who currently treat patients with CRPC. Two focus groups were conducted on Saturday, May 4, 2013, and two were conducted on Monday, May 6, 2013. A total of 34 urologists participated in the four focus groups, and each received a $250 honorarium for their time.

The AUA developed a topic guide used in both the one-on-one interviews and the focus groups to direct the discussion and address the study objectives. The guide was created with input from various AUA departments and clinical experts.

Limitations

A qualitative research methodology seeks to develop directions rather than quantitatively precise or absolute measures. Because of the limited number of respondents in this type of research, the study should be regarded as exploratory in nature and the results used to generate hypotheses for marketing decision-making and further testing. The non-statistical nature of qualitative research means the results cannot be generalized to the population under study with a known level of statistical precision. However, they can be used as a general road map to guide future investigation and formulation of strategy.

Introduction

The qualitative research (both interviews and focus groups) had the same objectives and therefore used the same topic guides to lead the interviews and focus groups. All participants by study design had to actively treat patients with CRPC and be practicing in the United States. There was unanimous agreement between respondents in both the interviews and the focus groups, so data is being presented in totality. Below is a summary of the Key Findings.
Key Findings

1. Determine Challenges in Managing CRPC Patients

**Note:** The Qualitative Research was conducted prior to the release of the AUA CRPC Guideline in May 2013.

Respondents indicated numerous challenges in managing CRPC patients. The challenges that were most prevalent included:

- Sequencing of agents (no algorithm available)
  
  “Lack of guidelines for the sequencing of agents is a big issue.”

- No standard protocol or guidelines for treating CRPC patients
  
  “It’s all very confusing, the guidelines are not great in this area and we have one or two people in our practice who are the go-to people. It is very difficult for everyone to know what is going on without a strong guideline that is out there.”

- Cost to patients with new agents is very expensive
  
  “The treatments we have are clearly not that efficacious for the amount of costs they are going to have in the system for both the patient and insurance ... for a two-month survival rate you may have a $97,000 treatment cost and I am not sure if that is a really good use of resources.”

- Costs to practices in setting up clinics and attaining reimbursement
  
  “Reimbursement is a big issue ... for the drugs and the treatment options available now, getting them paid for is a substantial issue.”

- Management of side effects of treatments
  
  “The side effect to benefit ratio is an issue.”

  “With all of these new oral agents that are out there, managing the various side effects for each patient is a bit of a challenge. We need some clear direction on how to manage the side effects for all of these new agents.”

- Maintaining the quality of life for CRPC patient
  
  “Some of these patients are at the very end of the game and I have to manage their quality of life in respects to the treatment options that are available. It’s not easy to do in some cases.”

- Determining the role of urologists/medical oncologists
  
  “For us, it’s trying to determine the role of both the urologists and the medical oncologists when patients are referred. Sometimes I never see the patient back or when I do, the notes from the medical oncologists were never sent to me so I have to seek out that information.”
Urologists indicated that with all of the new medications that are available to patients with CRPC, especially those that are not intravenous, sequencing of medical agents is the biggest challenge in managing CRPC patients. Additionally, urologists indicated a strong desire for an algorithm that would standardize the sequencing of agents based on the patient’s symptoms. Many indicated that a guideline on the treatment of CRPC patients was sorely needed so that urologists could feel more comfortable treating these patients. A CRPC guideline would also be seen as a tool to standardize care and hopefully contain a thorough algorithm for the sequencing of agents.

“Right now with all these new oral agents that are available, there is no real standard for sequencing for the CRPC patient ... that is my biggest concern.”

“The side effects of these new medications, especially Zytiga. Just managing the abnormalities and side effects is a concern.”

“With so many new treatments, there are no guidelines or flow chart on what to medically do next for these patients.”

Other issues dealing with costs to the patients, insurance companies and practices were also mentioned by the majority of urologists as challenges when managing CRPC patients.

“We have to have dedicated staff that only works on filling out the documents for approval and reimbursement for some of these therapies. That is a severe burden and cost to the practice.”

When asked about the important factors when selecting an effective drug regimen for CRPC patients, nearly all indicated the cost/benefit ratio and quality of life for the patients. Others mentioned the potential side effects the agents would have on the patient as an important factor when deciding an effective drug regimen.

“Some of these therapies will have difficult side effects for the patient and only have an efficacy of three months or so. So we really have to look at how we can maintain the quality of life of the patient given all the different therapies and medications that are now available.”

Finally, while some indicated that the drug regimen for CRPC patients is fairly standard at this point, given the new drugs that are available, the majority of urologists indicated that the drug regimens they develop for CRPC patients are personalized. They are based on many factors and include: age of patient, overall health of patient, costs to patient, desire of treatment by patient and other patient-related issues.

2. **Assess the Role of the Urologist in the Management of the CRPC Patient**

When asked if the role of the urologist is expanding in the treatment of CRPC patients, nearly every urologist answered in the affirmative. The primary reason given by urologists was the new therapeutic options that are available, including Zytiga, Xtandi, Provenge and Lupron.

“Oral agents have changed everything, and chemotherapy infusions have become a dinosaur treatment in prostate cancer.”
“The question now becomes who owns the patient? We used to send them to medical oncologists after they fail Lupron, but now with the new drugs like Provenge and Zytiga we are caught in the middle. The problem is sometimes the oncologist doesn’t like sending the patients back.”

Additionally, some respondents indicated that the younger, more aggressive urologists are looking to keep more advanced prostate cancer patients in the practice for economic reasons.

“The older urologists may not be looking to expand their role in the area of advanced prostate cancer because they are not comfortable with the new agents and may not be set up for infusion therapy. But the younger docs are more likely to be the ones growing this area within the urologic practice because they see the economic benefits, especially with the new oral agents that are available.”

The majority indicated the role of the urologist is expanding in the management of the CRPC patient. Fewer indicated they automatically refer CRPC patients to a medical oncologist so that the patient can be sure every option is available to them. Additionally, some indicated they refer to the medical oncologists after patients have been on hormone deprivation for a long period of time and had no response to the therapy.

3. Determine Resources Used to Help with Managing CRPC Patients

When asked if urologists use specific standards of care or guidelines to treat CRPC patients, nearly all indicated there were not any official guidelines in this area to use (again, qualitative research was conducted prior to the release of the AUA CRPC Guideline in May 2013). Some indicated that the National Comprehensive Cancer Network (NCCN) has developed an advanced prostate cancer guideline that is referenced when treating CRPC patients. However it lacks the important algorithm for treating CRPC patients and the subsequent sequencing of agents.

“There really is not much out there and I get a lot of my information from colleagues who I consider experts in advanced prostate cancer.”

“I normally just try to read as many articles as I can in ‘The Journal of Urology;’ I have referred to the NCCN guideline, but that is not the standard for CRPC patients.”

Some urologists indicated that pharmaceutical representatives are the only resources available that provide current information in the area of CRPC, specifically in the area of drug sequencing.

“Most of the information I get regarding the updates in CRPC is from the drug reps. There really isn’t much else out there.”

At the time of the research conducted in April and at the 2013 AUA Annual Meeting in May, few respondents were aware of the new AUA Guideline on CRPC. However, when informed, there was overwhelming support for and expected usage of the new AUA guideline.

“The development of an AUA guideline for CRPC patients is not only needed for urologists but also must be used to educate our medical oncological community about the AUA guideline.”

“A comprehensive AUA guideline for CRPC patients would also validate the urologist’s role in the treatment of these patients.”
“If the AUA puts out a guideline, most urologists follow it, so for CRPC, this is sorely needed.”

The use of physician extenders, such as APNs and PAs, in the management of CRPC patients is specialized. Those urology practices (typically large group, multi-specialty and hospital-based) that employ physician extenders indicated they are not actively used in the diagnoses and treatment of advanced prostate cancer patients. Areas where they are utilized include in administrative roles, monitoring medical regimens, monitoring lab results, bone health counseling, adherence and follow-up appointments, and to assess other urological health issues (i.e., incontinence, erectile dysfunction, overactive bladder [OAB], benign prostatic hyperplasia [BPH], etc.).

4. Explore Educational Opportunities in CRPC

When asked what urologists think are the greatest educational needs for those who manage CRPC patients, nearly all indicated that a thorough review of a CRPC guideline would be most useful.

“Simply having a thorough guideline for urologists to use would be really practical.”

“Having a thorough review of the AUA guideline is essential.”

Additionally, just as many urologists indicated a strong desire for additional education on the sequencing of agents and the side effects of those agents for CRPC patients. This could be completed as part of a comprehensive CRPC guideline review or stand alone.

“Urologists need an algorithm for drug sequencing so we know what the progression is supposed to be. It has to be set up so we can set it up based on the patient’s condition and know that is the appropriate sequence.”

“There is such a desire and need for a panel or publication that helps with the drug sequencing and side effects.”

Finally, there was strong desire from urologists on education concerning the business side of setting up and running an advanced prostate cancer clinic. Having additional information in this area, as well as information on all the coding and reimbursement issues that go along with treating CRPC patients, was mentioned as a glaring need for urologists.

“A course specifically on CRPC management for the community urologist is strongly needed. It could be a 2-3 hour course that covers these areas: 1. How to set up an advanced prostate cancer clinic; 2. Drugs and how and when to administer, sequence and their side effects; 3. How to set up a bone health clinic; and 4. How to get physician extenders set up.”
Quantitative Research: Summary of Findings

Methodology

The AUA administered an online survey to 8,723 domestic members with valid email addresses. Assessment tools were used to identify gaps in knowledge surrounding the early detection and treatment of CRPC. Assessment tools also measured knowledge, attitude, competence, practice, barriers to change and learning style preferences.

The components of this needs assessment relied upon progressive disclosure. Responses from the interviews and focus groups guided the development of the assessment tools. At each stage, the AUA refined the assessment tools based upon previous results as part of our continuous improvement process. All needs assessment methods reflect the diversity of the urology practice settings in which care is provided.

Survey invitations were sent out on July 12, 2013, and follow-up reminder email invitations were sent out to those who had not completed the survey on July 19, July 25, and July 29, 2013, just over one month after the release of the AUA CRPC Guideline (released in May). The survey was closed on August 5, 2013. A total of 1,051 surveys were completed for a total response rate of 12%. A total sample size of 1,051 is accurate within 3.08% at the 95% confidence level. In order to maximize the response rate, an incentive of a $250 Visa® Gift Card was given to 10 random respondents who completed the survey.
Demographics

Figure 1: Specialty

Nearly two-thirds (65%) of respondents indicated they do not have a urologic subspecialty and primarily work in general urology. Three-out-of-ten respondents indicated their urologic subspecialty is oncology, while significantly less indicated calculus (13%), incontinence (10%), erectile dysfunction (8%), pediatrics (7%) and obstructive diseases (5%).

Figure 2: Practice Type

The majority of respondents are in a urology group (36%) or full-time academic setting (28%). Fewer are located at a hospital (12%), multispecialty group (10%) or solo practice (9%).
By study design, senior/retired members were excluded from the survey. The mean age of respondents was 45 years.

Additionally, 87% of respondents were male, 17% were still in residency, nearly all were in an urban (71%) or suburban (27%) practice location, and just under one-third (32%) were fellowship trained.

The geographic region/AUA Section where respondents were located was diverse:

- 20% from the Southeastern Section area
- 19% from the Western Section area
- 16% from the North Central Section area
- 14% from the South Central Section area
- 11% from the Mid-Atlantic Section area
- 8% from the New York Section area
- 8% from the New England Section area
- 4% from the Northeastern Section Area
Practice Assessment Questions

**Figure 4: Percentage who Manage CRPC Patients**

When asked if currently managing patients with castration-resistant prostate cancer (CRPC), nearly two-thirds (62%) of urologists indicated in the affirmative. While this percentage is relatively high, certain segments are driving this finding: urologists with a subspecialty of oncology (73%) and general urology (68%), residents (72%) and urologists in a solo (72%) or group (71%) practice, and urologists living in the Southeastern (69%) and New York (67%) Sections of the AUA are the most likely segments to manage CRPC patients.

Conversely, urologists in the subspecialties of pediatrics (19%), incontinence (40%), and renal transplantation (50%), as well as female urologists (43%) and urologists 64 years or older (53%) are significantly less likely to manage patients with CRPC.
Confirming the qualitative data that was collected in the one-on-one interviews and focus groups, urologists who manage CRPC patients are most concerned with the cost of medications for patients (83% rated a 4 or 5 on a 5-point scale where 5 was extremely concerned and 1 was not at all concerned) and the modest efficacy of current therapies (72%).

Approximately three-fifths of urologists who manage CRPC patients indicated that costs to the practice (58%) and the limited protocols and guidelines for treating CRPC patients (48% – again, survey was fielded just over a month after AUA CRPC Guideline was launched in May 2013) was very concerning.
Areas that urologists have the least confidence in managing CRPC patients are sequencing of agents (33% rating a 1 or 2 on a 5-point scale, where 1 is not at all confident and 5 is extremely confident), management of comorbid conditions (30% not confident) and management of the side effects of CRPC treatments (28% not confident). Areas that urologists who manage CRPC patients are most confident are the ability to define a CRPC patient (82% rating a 4 or 5 on the same 5-point scale) and when to refer to a medical oncologist or keep the CRPC patient (73% very confident).

Areas where urologists indicated they are confident (but significantly less so than the top two areas) include: selecting an effective drug regimen (49% very confident vs. 18% not confident), maintaining the quality of life for CRPC patient (45% very confident vs. 15% not confident), and management of bone metastases (41% very confident vs. 17% not confident).
Nine-out-of-ten urologists who manage CRPC patients indicated that quality of life of the patient (93% rating a 4 or 5 on a 5-point scale where 5 is extremely important and 1 is not at all important), health of the patient (92%), and efficacy (90%) are very important when selecting a drug regimen for a CRPC patient. Slightly fewer indicated the side effects of treatments (84%), cost/benefit ratio for patient (80%), the management of comorbid conditions (73%), and the sequencing of agents (72%) are very important factors when selecting a drug regimen for a CRPC patient.
Just over half (53%) of urologists who manage CRPC patients indicated the role of urologists in the treatment of CRPC patients is expanding. Just over one-third (35%) indicated the role is stable and only one-in-ten (12%) indicated their role is shrinking. Urologists who are currently employed in a urology group practice (67%) are significantly more likely than those in solo practice (40%), full-time academic (45%), and hospital based (37%) to indicate the role of urologists in the treatment of CRPC patients is expanding.

The major reason given for the expanding role of urologists in the treatment of CRPC patients is the new medications/therapies that are now available (79%). Other responses included that younger urologists are more aggressive in keeping CRPC patients (12%) or the increased financial opportunities for practice (2%).

While urologists indicated their role is expanding in the treatment of CRPC patients, some continue to refer CRPC patients to medical oncologists for a myriad of reasons. Nearly half (47%) indicated they refer CRPC patients to medical oncologists when it is time for chemotherapy, while a quarter refer immediately after CRPC diagnosis. Significantly fewer refer at the time of metastatic CRPC (14%) or at the time of PSA recurrence (5%). Regardless of if and when urologists refer CRPC patients, their relationships with medical oncologists are viewed positively. Nearly nine-out-of-ten (86% rate a 4 or 5 on a 5-point scale where 1 is poor and 5 is excellent) urologists who manage CRPC patients indicated their relationship with the medical oncologist is very good.
Figure 9: Standards of Care or Guidelines Used for Managing CRPC Patients (N=606)

Just over two-fifths (41%) of urologists indicated they do not use any standards of care or guidelines for managing CRPC patients. With the newly released AUA CRPC Guideline only being published for just over a month prior to this needs assessment survey being fielded, over one-third (36%) of urologists are already using the AUA clinical guideline on advanced prostate cancer. Sixteen percent indicated they are using the National Comprehensive Cancer Network (NCCN) guideline on advanced prostate cancer.

When asked, two-thirds of urologists who manage CRPC patients indicated they are aware of the newly published AUA advanced prostate cancer guideline and significantly more (81% rate a 4 or 5 on a 5-point scale where 1 is not at all likely and 5 is extremely likely) indicate they are very likely to use the new AUA guideline in treating their CRPC patients. As the awareness levels of the new AUA CRPC Guideline increase, usage of said Guideline will increase even higher than the current rate. It is essential that continuing education be implemented that contains a thorough review of the new AUA CRPC Guideline to assist urologists who are referring to it as they manage CRPC patients.
Figure 10: How Urologists Utilize Physician Extenders in the Management of CRPC Patients

Just over half of urologists who manage CRPC patients indicated that they utilize physician extenders in the management of CRPC patients (51%). Of those, about one-third indicated physician extenders monitor lab results (35%) or the CRPC patient medical regimen (30%). About one-quarter assess other urologic issues (i.e., incontinence, BPH, OAB, erectile dysfunction, etc.) (25%) or manage the adherence of follow-up appointments (24%). One-fifth of urologists indicated their physician extenders conduct and manage the bone health counseling for their CRPC patients, while significantly fewer actually treat (14%) or diagnose (10%) the CRPC patient.
Educational Needs Questions

Figure 11: Greatest Educational Needs of Urologists in the Areas of Managing CRPC Patients

Over three-fourths of urologists who manage CRPC patients indicated the greatest educational needs of urologists in the area of managing CRPC patients are a thorough review of AUA CRPC Guidelines (79%) and sequencing of agents (77%). Three-fifths of urologists indicated the side effects of agents is an educational need, while just under half (47%) indicated the management of comorbid conditions is a need. Approximately one-third of urologists indicated a need for training in counseling/support of patients in end-of-life issues (36%), screenings and tools for preventive care in the CRPC patient (35%), and the business of setting up an advanced prostate cancer clinic (30%).

Older urologists indicated an educational need for understanding the side effects of agents (75% aged 65 & over and 67% aged 55 to 64). Urologists in rural areas are significantly more likely to indicate an educational need for a thorough review of AUA CRPC Guidelines (92%), sequencing of agents (83%), management of comorbid conditions (60%), and screenings and tools for preventive care in the CRPC patient (50%).
Figure 12: Preferred Format for Attaining CME in the Area of CRPC

When asked what the preferred format was for attaining CME in the area of CRPC, urologists were very much divided in their answers. Just under two-fifths (38%) prefer live education, such as a stand-alone course or national meeting, while just under one-third (31%) of urologists who manage CRPC patients indicated a Web-based enduring activity with no live component was the most preferred format. One-quarter indicated their most preferred format was an enduring material such as a print journal or monograph, and almost none (5%) indicated a preference for a live, Web-based presentation.

Worth noting, these findings are in line with the AUA’s current educational offerings in the area of CRPC. The AUA is conducting a series of educational offerings in the coming months that includes live education at stand-alone courses and the AUA national meeting, and Web-based (no live component) and enduring (print) offerings as well. This positions the AUA to meet the learners preferred formats for attaining CRPC continuing medical education.
Six-out-of-ten urologists who do not currently manage CRPC patients indicated they are interested in learning more about expanding the role of urologists in treating CRPC.

Nearly a similar amount indicated they are aware of the new AUA CRPC Guideline, and over three-fifths (63%) indicated they are very likely (rating a 4 or 5 on a 5-point scale, where 1 is not at all likely and 5 is extremely likely) to use the new AUA CRPC Guideline when they start treating CRPC patients. (Note: The AUA Guideline was released in May 2013, just over one month prior to the fielding of the quantitative survey in this needs assessment.)
Clinical Competency Questions

The competencies are a series of statements that represent the abilities needed to successfully manage CRPC patients. These competencies were developed from clinical guidelines, current literature and expert opinion. Urologists were asked to consider the following statements, then indicate both their present and desired levels of ability (from 1=low to 5=high) in performing each task.

Pair #1: Select an effective drug regimen
Pair #2: Sequencing of agents
Pair #3: Minimize short- and long-term adverse side effects of medications
Pair #4: Identify potential interactions between immunosuppressive agents and other medications
Pair #5: Coordinate with other specialists or primary care physicians to manage comorbid conditions
Pair #6: Coordinate care with medical oncologist
Pair #7: Identify risk factors for non-adherence to medication regimens
Pair #8: Effectively communicate risks of non-adherence to patients and family

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</tbody>
</table>

Participants who reported their desired abilities in the eight clinical areas were all significantly higher than their current abilities based on both paired T tests and non-parametric Wilcoxon tests. The competency that experienced the lowest current ability was identify potential interactions between immunosuppressive agents and other medications with an average rating of 2.29 (on a 1-5 scale, where 1 is low and 5 is high).

The competency with the highest current ability was coordinating care with medical oncologist. While all desired ability average scores were significantly higher than current ability, the competency with the highest desired average ability was sequencing of agents (4.53) and selecting an effective drug regimen (4.52).
The perceived need of each competency is the difference, or gap, between urologists’ ratings for present and desired levels of ability. In other words, this number represents the difference between “what is” and “what ought to be.” A gap of 0.5 is presumed to be important, with gaps of 1.0 – 2.0 considered ideal for clinician education. A gap smaller than 0.5 indicates low motivation to learn and change, while a gap higher than 2.0 may represent a level of change that the physician believes to be unattainable or impractical.

The average gap, or perceived need, of this competency set is 1.35; individual gaps ranged from 0.58 to 1.95. All eight of the perceived competency gaps are higher than 0.5 and are thus considered important for continuing education. Five fall within the ideal range of 1.0 – 2.0. Physicians realize that change is needed in this clinical area of medicine and are motivated to make practice changes. The five areas of highest perceived need are:

Pair #1: Select an effective drug regimen (82% of urologists noted a higher desired ability than current ability)
Pair #2: Sequencing of agents (84% of urologists noted a higher desired ability than current ability)
Pair #3: Minimize short- and long-term adverse side effects of medications (84% of urologists noted a higher desired ability than current ability)
Pair #4: Identify potential interactions between immunosuppressive agents and other medications (85% of urologists noted a higher desired ability than current ability)
Pair #7: Identify risk factors for non-adherence to medication regimens (56% of urologists noted a higher desired ability than current ability)

These results indicate that the urologists’ biggest concern in the management of CRPC patients is in the area of selecting an effective drug regimen and how to sequence the various agents that are now available to CRPC patients. Additionally, concerns regarding the potential interactions between immunosuppressive agents and other medications, as well as identifying risk-factors for non-adherence to medication regimens, are also rated as very high areas of need. This mirrors concerns expressed during the in-depth interviews.
Knowledge-Based Questions

The knowledge assessment portion of the survey consisted of five questions designed to assess knowledge that is directly related to the clinical competencies defined above. Each question relates to a specific patient index taken from the recent AUA clinical guideline on advanced prostate cancer. Please refer to Appendix A of this report for a diagram of the Staging/H&P/Imaging Algorithm for CRPC patient indexes. Please refer to Appendix B of this report to see the actual questions asked for each knowledge-based question.

Urologists’ scores on the knowledge questions averaged 69% correct or 31% incorrect (Figure 13). This clearly indicates a knowledge deficit that could benefit from educational initiatives. It will be important to demonstrate this deficit to urologist learners.

Figure 15: Percentage of Urologists Who Manage CRPC Patients Incorrectly Answering Each Knowledge-Based Question
Below is additional information on each of the knowledge-based questions:

Q.25 – Index Patient 1 – 48% incorrectly answered: Based on the AUA CRPC Guidelines, this patient would fit the definition of Index Patient 1 (non-metastatic CRPC). Accordingly, clinicians should recommend observation in this setting. Clinicians may offer treatment with first- and second-generation anti-androgens (flutamide, bicalutamide and nilutamide) or first-generation androgen synthesis inhibitors (ketoconazole) to select patients unwilling to accept observation. However, clinicians should NOT offer systemic chemotherapy, immunotherapy or radiopharmaceuticals outside of the context of a clinical trial for the purposes of delaying disease progression.

Q.26 – Index Patient 3 – 18% incorrectly answered: Based on the AUA CRPC Guidelines, this patient would fit the definition of Index Patient 3 (symptomatic metastatic CRPC, no prior docetaxel therapy and a good performance status). Based on this, clinicians should offer abiraterone plus prednisone or docetaxel plus prednisone. Clinicians may offer mitoxantrone, ketoconazole or samarium to patients who do not want or cannot have one of the previously listed treatments. Clinicians should NOT offer treatment with either sipuleucel-T or estramustine. Since he desires treatment, palliative care only would also be inappropriate.

Q.27 - Index Patient 2 – 36% incorrectly answered: Based on the AUA CRPC Guidelines, this patient would fit the definition of Index Patient 2 (asymptomatic or mildly symptomatic metastatic CRPC, no prior docetaxel therapy and a good performance status). In this setting, clinicians should offer docetaxel + prednisone, abiraterone or sipuleucel-T. Clinicians may offer first- and second-generation anti-androgen therapy, ketoconazole or observation to patients who do not want or cannot have one of the previously listed standard treatments.

Q.28 – Index Patient 5 – 44% incorrectly answered: Based on the AUA CRPC Guidelines, this patient would fit the definition of Index Patient 5 (symptomatic metastatic CRPC, prior docetaxel therapy and a good performance status.) Accordingly, clinicians should offer treatment with abiraterone, enzalutamide or cabazitaxel. Clinicians may offer ketoconazole if abiraterone is unavailable. Clinicians may offer retreatment with docetaxel to patients who were benefitting at the time of discontinuation (due to reversible side effects) of docetaxel treatment.

Q.29 – Index Patient 6 – 10% incorrectly answered: Based on the AUA CRPC Guidelines, this patient would fit the definition of Index Patient 6 (symptomatic metastatic CRPC, poor performance status). In this setting, clinicians should offer palliative care. Clinicians may, in selected cases, offer treatment with enzalutamide, abiraterone, samarium or ketoconazole. Clinicians should NOT offer systemic chemotherapy or immunotherapy.
Implications for Continuing Education

The educational implications of the needs assessment findings for urologists with regard to managing CRPC patients center on sequencing of agents, managing side effects of treatments and management of comorbid conditions. Additionally, urologists indicated an educational need in the areas of identifying potential interactions between immunosuppressive agents and other medications and patient adherence to medical regimens. This section highlights areas where urologists demonstrate unique educational needs.

Sequencing of Agents

Urologists indicated one of the greatest educational needs in treating CRPC patients is the area of sequencing of agents. With the numerous new treatments that are now available to urologists to manage the CRPC patient, urologists in both the qualitative and quantitative portions of the needs assessment indicated a strong desire to improve their knowledge in this topic area.

Below is a table that showcases the overall data that was collected that leads to the finding of a strong need to produce continuing education in the area of sequencing of agents for CRPC patients:

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Importance When Selecting Drug Regimen</th>
<th>Greatest Educational Need in Managing CRPC Patients</th>
<th>Clinical Competency Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 39% indicate very confident</td>
<td>72% indicate very important</td>
<td>77% indicate need</td>
<td>1.79 average gap between current and desired ability</td>
</tr>
</tbody>
</table>
Managing Side Effects of Treatments

Urologists also indicated a significant educational need in the area of managing the side effects of treatments for CRPC patients. With the increasing number of new agents that are now available to treat CRPC patients, managing the side effects of each treatment has become an increasingly important role for urologists. In order for urologists’ role in managing CRPC patients to continue to increase, knowledge of the various side effects of the numerous treatments that are available is paramount.

Below is a table that showcases the overall data that was collected that leads to the finding of a strong need to produce continuing education in the area of management of side effects of treatments for CRPC patients:

<table>
<thead>
<tr>
<th>Managing Side Effects of Treatments</th>
<th>Confidence Level</th>
<th>Importance When Selecting Drug Regimen</th>
<th>Greatest Educational Need in Managing CRPC Patients</th>
<th>Clinical Competency Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 37% indicate very confident</td>
<td>84% indicate very important</td>
<td>60% indicate need</td>
<td>1.70 average gap between current and desired ability</td>
<td></td>
</tr>
</tbody>
</table>

Management of Comorbid Conditions

The adverse consequences of comorbidity pose a major clinical challenge in the care of CRPC patients. Urologists who treat CRPC patients agree that the management of these comorbid conditions is a significant educational need. While qualitative research findings identified comorbid conditions as an important area for continuing education when managing CRPC patients, the quantitative data confirmed these findings.

Below is a table that showcases the overall data that was collected that leads to the finding of a strong need to produce continuing education in the area of management of comorbid conditions for CRPC patients:

<table>
<thead>
<tr>
<th>Management of Comorbid Conditions</th>
<th>Confidence Level</th>
<th>Importance When Selecting Drug Regimen</th>
<th>Greatest Educational Need in Managing CRPC Patients</th>
<th>Clinical Competency Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 32% indicate very confident</td>
<td>73% indicate very important</td>
<td>47% indicate need</td>
<td>.85 average gap between current and desired ability</td>
<td></td>
</tr>
</tbody>
</table>
Non-adherence to Medication Regimens & Identifying Potential Interactions Between Immunosuppressive Agents and Other Medications

Two additional areas where urologists indicated a strong desire for increased educational offerings were in the areas of non-adherence to medication regimens and identifying the potential interactions between immunosuppressive agents and other medications. The clinical competency questions for each of these showed a significant difference in the urologists current ability and their desired ability (1.36 difference for non-adherence to medication regimens and 1.95 difference for identifying potential interactions between immunosuppressive agents and other medications – this was the largest educational gap). These gaps indicate a significant need for continuing education in each of the areas.

AUA CRPC Guideline Review

Qualitative data that was gathered in April 2013 (prior to the release of the AUA Advanced Prostate Cancer Clinical Guideline in May) indicated that there was a significant need for a comprehensive guideline for the management of CRPC patients. Quantitative data collected in July 2013 indicated that just over two-fifths (41%) of urologists who manage CRPC patients do not use any standards of care or guidelines when managing CRPC patients. Just over one-third (36%) are using the new AUA Guideline and just under one-quarter are using NCCN’s (16%) or some other (7%) guideline when managing CRPC patients.

With the need for a clinical guideline for managing CRPC patients being fulfilled by the AUA, the next step in the educational process is a thorough review of the Guideline. Quantitative data indicated that when asked “What are the greatest educational needs for urologists in the areas of managing CRPC patients?”, a thorough review of the AUA CRPC Guideline was the highest rated need (79%). Furthermore, urologists in solo practice (90%), still in residency (87%), younger (under the age of 35 – 83%) and older (age 65 and older – 88%), in rural areas (92%) and those located in the Western (84%) and North Central (83%) Sections of the AUA are significantly more likely to indicate a thorough review of the AUA Guidelines is a great educational need of urologists in managing CRPC patients.

Educational Attributes

Urologists do not strongly favor any particular attribute of educational activities (format, venue, faculty, setting). When asked what the preferred format was for attaining CME in the area of CRPC, urologists were very much divided in their answers. Just under two-fifths (38%) prefer live education, such as a stand-alone course or national meeting, while just under one-third (31%) of urologists who manage CRPC patients indicated a Web-based enduring activity with no live component is the most preferred format. One-quarter indicated their most preferred format was an enduring material, such as a print journal or monograph, and almost none (5%) indicated a preference for a live, Web-based presentation.

These findings are in line with the AUA’s current educational offerings in the area of CRPC. The AUA is conducting a series of educational offerings in the coming months that includes live education at stand-alone courses and the AUA national meeting, and Web-based (no live
component) and enduring (print) offerings as well. This positions the AUA to meet the learners preferred formats for attaining CRPC continuing medical education.

**Business of Managing CRPC Patients**

While nearly one-third of urologists who are currently managing CRPC patients indicated that receiving education on the business of setting up an advanced prostate cancer clinic is of great need, even more indicated the costs of medications for patients (83%) and the costs of managing CRPC patients to the practice (58%) is very concerning.

Urologists indicated the cost of medications to patients is their number one concern in managing CRPC patients. This concern indicates a significant need for future education directed toward urologists in this area. A collaboration between the AUA and Industry to help educate urologists on the business side of the treatments and assistance that is available to patients for costs of medication could dispel any misconceptions about these costs and the overall cost of managing CRPC patients for their practice. Additionally, as more urologists begin to manage CRPC patients, the importance of providing education on setting up an advanced prostate cancer clinic will become an even greater need for urologists.
# Appendix B: Survey

American Urological Association  
Castration-Resistant Prostate Cancer Educational Needs Assessment Survey  
(FINAL 7/10/13)

**DEMOGRAPHIC QUESTIONS**

1. Which best describes your primary special interest area(s)?
   
   **CHECK ALL THAT APPLY**
   
   - General Urology 1
   - Oncology 2
   - Pediatrics 3
   - Calculus 4
   - Incontinence 5
   - Erectile Dysfunction 6
   - Fertility 7
   - Renal Transplantation 8
   - Trauma 9
   - Obstructive Diseases 10
   - Andrology 11
   - Other (specify)___ 12
   - No special interest area 13

2. Which best describes your primary employment location?
   
   **CHECK ONE**
   
   - Rural (pop. <5,000) 1
   - Suburban (pop. 5,000 – 99,999) 2
   - Urban (pop. 100,000+) 3

3. Which best describes your practice type?
   
   **CHECK ONE**
   
   - Urology Group 1
   - Solo Practice 2
   - Multispecialty Group 3
   - Full-time Academic 4
   - Hospital 5
   - Full-time Managed Care 6
   - Other (specify)__________ 7
4. Please indicate the category that corresponds to your age:

**CHECK ONE**

- Under 35
- 35 to 44
- 45 to 54
- 55 to 64
- 65 or more

5. Please indicate your gender:

**CHECK ONE**

- Male
- Female

6. How many years out of residency are you?

**CHECK ONE**

- Still in residency
- 1 to 5 years
- 6 to 10 years
- 11 to 20 years
- 21 or more years

7. Are you Fellowship trained?

**CHECK ONE**

- Yes
- No

8. Are you an AUA Member?

**CHECK ONE**

- Yes
- No

9. What is your AUA Section?

**CHECK ONE**

- Mid-Atlantic
- New England
- New York
- Northeastern
- North Central
- Southeastern
- South Central
- Western
PRACTICE QUESTIONS:

10. Do you currently manage patients with Castration-Resistant Prostate Cancer (CRPC)?  
   **CHECK ONE**  
   Yes 1  
   No 2 →(SKIP TO Q.31)

11. Approximately how many CRPC patients do you see in a typical week?  
   **CHECK ONE**  
   1-2 1  
   3-5 2  
   6-9 3  
   10 or more 4

12. Using a 1 to 5 scale, where 5 is extremely concerned and 1 is not at all concerned, how concerned are you in the following areas in the management of the CRPC patient:  
   **CHECK ONE PER ROW**  
   Extremely Concerned  Not at all Concerned  DK  
   Limited protocols and guidelines for treating CRPC patients 5 4 3 2 1 6  
   Cost of medications for patients 5 4 3 2 1 6  
   Costs to practice 5 4 3 2 1 6  
   Modest efficacy of current therapies 5 4 3 2 1 6
13. Using a 1 to 5 scale, where 5 is extremely confident and 1 is not at all confident, how confident are you in the following areas in the management of the CRPC patient:

<table>
<thead>
<tr>
<th></th>
<th>Extremely Confident</th>
<th>Not at all Confident</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting an effective drug regimen</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequencing of agents</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of side effects of treatments</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining the quality of life for CRPC patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When to refer to a medical oncologist or keep CRPC patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of comorbid conditions</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of bone metastases</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to define a CRPC patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Using a 1 to 5 scale, where 5 is extremely important and 1 is not at all important, how important are the following factors when selecting a drug regimen for a CRPC patient:

<table>
<thead>
<tr>
<th></th>
<th>Extremely Important</th>
<th>Not at All Important</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequencing of agents</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/Benefit ratio for patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health of patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side effects of treatment</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life of patient</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of comorbid conditions</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficacy</td>
<td>5 4 3 2 1 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. Is your role in the treatment of CRPC patients:

<table>
<thead>
<tr>
<th></th>
<th>CHECK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expanding</td>
<td>1</td>
</tr>
<tr>
<td>Stable</td>
<td>2</td>
</tr>
</tbody>
</table>
| Shrinking          | 3         | →(SKIP TO Q.17)
16. What are the reasons your role is expanding in the treatment of CRPC patients?  
CHECK ALL THAT APPLY
- New medications/therapies available
- Younger urologists are more aggressive in keeping CRPC patients
- Increased financial opportunities for practice
- Other (Specify) _________________
- Don’t Know

17. At what point do you refer your CRPC patients to medical oncologists?  
CHECK ONE
- At time of PSA recurrence
- When starting androgen deprivation therapy (ADT)
- When on ADT for extended time
- Immediately after CRPC diagnosis
- At time of metastatic CRPC (imaging disease on bone scan or CT scan)
- When time for chemotherapy
- Never
- Other (specify) _________________

18. Using a 1 to 5 scale, where 5 is excellent and 1 is poor, how is the relationship you have with the medical oncologists if you refer CRPC patients?  

<table>
<thead>
<tr>
<th>Relationship w/Medical Oncologist</th>
<th>Excellent</th>
<th>Poor</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

19. What standards of care or guidelines are used for managing CRPC patients? (IF NONE, PLEASE WRITE IN “NONE”)

________________________________________________________________________
________________________________________________________________________

20. Are you aware of the new AUA CRPC Guideline that was published at the 2013 AUA Annual Meeting in San Diego, California?  
CHECK ONE
- Yes
- No
21. Using a 1 to 5 scale, where 5 is extremely likely and 1 is not at all likely, how likely are you to use the new AUA CRPC Guideline in treating your CRPC patients?

<table>
<thead>
<tr>
<th>Extremely Likely</th>
<th>Not at All Likely</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUA CRPC Guideline</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

22. How do you utilize physician extenders (i.e. Nurse Practitioners, Physician Assistants, etc.) in the management of CRPC Patients?

CHECK ALL THAT APPLY

- Diagnosis of CRPC
- Treatment of CRPC patients
- Monitoring medical regimen
- Monitoring lab results
- Bone health counseling
- Managing adherence of follow-up appointments
- Assessing other urologic issues
- Management of bone metastases
- Other (specify)
- Do not utilize physician extenders

EDUCATIONAL NEED QUESTIONS:

23. What are the greatest educational needs for urologists in the areas of managing CRPC patients?

CHECK ALL THAT APPLY

- Thorough review of AUA CRPC Guideline
- Sequencing of agents
- Side effects of agents
- Business of setting up an advanced prostate cancer clinic
- Screenings and tools for preventive care in the CRPC patient
- Management of comorbid conditions
- Training in counseling/support of patients in end-of-life issues
- Other (specify)
- None
24. Please select your preferred format for attaining CME in the area of CRPC?

**CHECK ONE**
- National/State society meetings 1
- Enduring material (print journal, monograph, etc.) 2
- Live Web-based presentation 3
- Web-based enduring activity (no live component) 4
- Stand-alone course 5
- Other (specify) 6

**KNOWLEDGE-BASED QUESTIONS:**

For the following questions, please answer the best possible answer given knowing that there may be other possible alternative answers.

25: A 67-year-old asymptomatic man previously underwent an orchiectomy for prostate cancer. He now has a rising PSA from 5.0 ng/mL to 10.0 ng/mL over a 6-month period despite a castrate level testosterone. His bone scan and CT scan are negative for metastatic disease. The next step is:

**CHECK ONE**
- Observation 1
- Immunotherapy 2
- Chemotherapy 3
- Radiopharmaceutical therapy 4

26. A 70-year-old man with a good performance status has metastatic CRPC. He has now developed painful symptomatic bone lesions and desires treatment. His only treatments to date have been leuprolide continuously, and more recently a 6-month trial of ketoconazole. Of the available options, the next step is:

**CHECK ONE**
- Sipuleucel-T 1
- Estramustine 2
- Abiraterone + prednisone 3
- Palliative care 4

27. A healthy 55-year-old male with a rapidly rising PSA on androgen deprivation therapy develops radiographic bone metastases on surveillance imaging. He is asymptomatic and desires treatment. The next step is:

**CHECK ONE**
- Sipuleucel-T 1
- Estramustine 2
- Cabazitaxel 3
- Mitoxantrone 4
28. A 60-year-old man with CRPC has symptomatic and radiographic progression of his disease despite docetaxel plus prednisone. He has a good performance status and desires treatment. The next step would include:

CHECK ONE

<table>
<thead>
<tr>
<th>Drug</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enzalutamide</td>
<td>1</td>
</tr>
<tr>
<td>Mitoxantrone</td>
<td>2</td>
</tr>
<tr>
<td>Sipuleucel-T</td>
<td>3</td>
</tr>
<tr>
<td>Estramustine</td>
<td>4</td>
</tr>
</tbody>
</table>

29. An 82-year-old man with CRPC who has been treated in the past with docetaxel plus prednisone develops worsening disease with clinical progression of disease. He is frail, his performance status is poor, and he is wheelchair bound. The next step is:

CHECK ONE

<table>
<thead>
<tr>
<th>Drug</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sipuleucel-T</td>
<td>1</td>
</tr>
<tr>
<td>Cabazitaxel</td>
<td>2</td>
</tr>
<tr>
<td>Estramustine</td>
<td>3</td>
</tr>
<tr>
<td>Palliative care</td>
<td>4</td>
</tr>
</tbody>
</table>

**CLINICAL COMPETENCY QUESTIONS:**

30. The next series of items represents clinical competencies related to management of the CRPC patient. Please rate your Current Ability in the left-hand column, and your Desired Ability in the right-hand column.

<table>
<thead>
<tr>
<th>Task</th>
<th>CHECK ONE PER ROW</th>
<th>Do Not Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select an effective drug regimen</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Sequencing of agents</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Minimize short- and long-term adverse side effects of medications</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Identify potential interactions between immunosuppressive agents and other medications</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Coordinate with other specialists or primary care physicians to manage comorbid conditions</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Coordinate care with medical oncologist</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Identify risk factors for non-adherence to medication regimens</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
<tr>
<td>Effectively communicate risks of non-adherence to patients and family</td>
<td>1=Low, 5=High</td>
<td>6</td>
</tr>
</tbody>
</table>
31. **(ASK ONLY TO THOSE ANSWERING CODE 2 IN Q.10, OTHERWISE SKIP TO END OF SURVEY)** Are you interested in learning more about expanding the role of urologists in treating this disease state? (CRPC)

   **CHECK ONE**
   - Yes 1
   - No 2

32. Are you aware of the new AUA CRPC Guideline that was published at the 2013 AUA Annual Meeting in San Diego, California?

   **CHECK ONE**
   - Yes 1
   - No 2

33. Using a 1 to 5 scale, where 5 is extremely likely and 1 is not at all likely, how likely are you to use the new AUA CRPC Guideline when you start treating CRPC patients?

<table>
<thead>
<tr>
<th>Extremely Likely</th>
<th>Not at All Likely</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUA CRPC Guideline</strong></td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix C: References