March 15, 2012

Joe Selby, MD, MPH
Executive Director
Patient-Centered Outcomes Research Institute
1701 Pennsylvania Ave., NW,
Suite 300
Washington, DC 20006

Re: Draft National Priorities for Research and Research Agenda

Dear Dr. Selby:

The American Society for Radiation Oncology[1] (ASTRO) is committed to supporting our members in delivering high quality patient care as well as promoting research and disseminating research results. We applaud the efforts of PCORI which enables the participation of a broad range of stakeholders to play a role in the development of the PCORI agenda. To that end, we are pleased to provide comments on the Patient-Centered Outcomes Research Institute (PCORI) Draft National Priorities for Research and Research Agenda (version 1).

As providers of radiation therapy to patients with cancer, ASTRO is dedicated to continuous quality improvement of the care our members provide. PCORI's focus on "comparative clinical effectiveness" research (CER) is well aligned with the research needs of the field of radiation oncology. Recent medical technology innovations have resulted in cases of the quick adoption of new radiation therapy advances with few studies investigating whether they represent an incremental improvement in patient outcomes. This has resulted in increased national attention on the appropriateness of some of these new technologies and the pace of their integration into patient care. ASTRO embraces CER of radiotherapy to better understand what health interventions work, for which patients, and under what conditions. For these reasons we believe radiation therapy offers PCORI a unique opportunity to have a significant impact on the quality of patient care.

PCORI has prioritized five research areas that patient and caregivers need in order to make important healthcare decisions:

- Assessment of prevention, diagnosis and methodological research;

[1] ASTRO is the largest radiation oncology society in the world, with 10,000 members who specialize in treating patients with radiation therapies. As the leading organization in radiation oncology, biology, and physics, the Society is dedicated to the advancement of the practice of radiation oncology by promoting excellence in patient care, providing opportunities for educational and professional development, promoting research and disseminating research results, and representing radiation oncology in a rapidly evolving healthcare environment.

- Improving healthcare systems;
- Communication and dissemination;
- Addressing disparities; and
- Accelerating patient-centered and methodological research.

ASTRO supports these five broad research areas, and, working with ASTRO's complementary research foundation—the Radiation Oncology Institute (ROI)—which has conducted a radiation oncology research needs assessment, we suggest several projects related to these priority topics from our perspective as a specialty dedicated to care for cancer patients.

1. Comparative Assessment of Prevention, Diagnosis, and Treatment Options

The PCORI Proposed Research Agenda identifies research that is related to the assessment of prevention, diagnosis, and treatment options as the first priority area. The agenda states that the research should focus on "1) clinical options with emphasis on patient preferences and decision making and 2) biological, clinical, economic, and geographic factors that may affect patient outcomes." ASTRO supports this broad approach that encompasses the wide range of factors described above. In cancer care, different types of providers often work together with the patient to create an overall treatment plan. ***Because of the inherent complexity of these multidisciplinary teams, ASTRO recommends as a special area of emphasis, research projects that would evaluate strategies to ensure the best possible patient outcomes from the use of cancer therapies.***

Given the large pool of possible CER questions, we support CER evidence generation to identify treatments that consistently improve health outcomes compared to alternatives; patient subpopulations that consistently benefit from treatments but are often not captured in studies; and treatments which consistently produce similar health outcomes. We encourage efficacy and effectiveness research that examines survival (defined as overall survival and disease specific survival) and quality of life (defined as disease-specific and overall QOL). As local-regional cancer control with maximal normal tissue preservation is a defining role for radiotherapy, we particularly encourage research that examines the impact of local-regional cancer control on survival, toxicity/side effects and quality of life. Other intermediate outcomes, such as surrogate disease response outcomes; second malignancies; patient reported outcomes; and disease specific QOL are also important.

We have identified four main topic areas as CER priorities for radiation oncology:

- Outcomes of invasive vs. non-invasive approaches to definitive treatment for prevalent cancers. For example, radiotherapy vs. surgery for early stage non-small cell lung cancer (NSCLC). These studies should carefully examine and adjust for confounding between treatments and prognostic factors.
- Outcomes of competing radiotherapy modalities for prevalent cancers. We encourage CER in the form of prospective randomized clinical trials, prospective cohort studies, and retrospective studies to evaluate the comparative effectiveness of competing radiotherapy modalities for prevalent cancers. We also support retrospective studies using large

clinical databases but recognize the challenges in identifying modalities and secondary outcomes like toxicity in these databases.

- Outcomes of alternative approaches to management of oligometastatic disease. We emphasize the importance of evaluating survival and overall and disease specific quality of life endpoints in prospective studies of oligometastatic disease.
- Outcomes of hypofractionation for prevalent disease. We encourage clinical trials and observational studies to evaluate the efficacy and effectiveness of hypofractionation for prostate and breast cancer.

2. Improving Healthcare Systems

Expand to Include Patient Safety?

Under the "Improving Healthcare Systems" the document states that research should focus on 1) ways to improve access to care, receipt of care, coordination of care, self-care, and decision-making, 2) use of non-physician healthcare providers, such as nurses and physician assistants, and the impact on patient outcomes, 3) system-level changes affecting all populations, diseases, and health conditions. ***In addition, related to a key area that ASTRO members identified in the ROI needs assessment, ASTRO recommends that PCORI expand this priority to include topics focused on patient safety and quality assurance.*** A major theme of quality programs is that variance in a process should be controlled. However, in many aspects of medical care, we are currently lacking quality metrics that capture the quality of the planning and delivery process for individual patients.

Scientists and clinicians in radiation oncology have long understood the need for safety, and there is a rich resource of established procedures to ensure the delivery of safe radiotherapy. Nevertheless, much work remains to be done to improve our quality assurance methods in radiotherapy. To that end, we support projects that address technical, quality assurance topics in radiation oncology quality care relating to contouring, IMRT treatment planning, and geometric setup accuracy.

Investment in the Development of Clinical Registries and the Use of New Technologies

Although randomized clinical trials provide the highest level of evidence to support treatment strategy, they suffer from certain limitations including the high cost of conducting them, the amount of time required to complete such trials and the potential lack of generalizability due to strict eligibility criteria in most trials. In the last few years, there has been rapid development and adaptation of new technologies in our specialty. These technologies include IMRT, IGRT, SBRT and proton beam therapy. Their clinical adaptation has been mainly based on studies showing dosimetric advantages favoring these new modalities. However, their clinical effectiveness, benefit to patients in terms of survival and quality of life are not known. Additionally, the rapid pace of this new technology and adaptation in the community has outstripped the pace that can be supported by randomized clinical trials. Therefore, there is a strong need for obtaining population-based comparative effectiveness data to compare different treatment techniques and the patient reported outcomes of these treatment approaches. To this end, as evidenced in the

ROI needs assessment, ASTRO members strongly support developing a radiation oncology registry we are currently undertaking the development of a registry pilot on prostate cancer. Clinical registries play an important role in quality improvement efforts. By collecting comparable data across multiple settings, an important benefit of clinical registries is in the area of monitoring and benchmarking the quality of clinical care provided. ***ASTRO strongly recommends that PCORI fund projects to analyze the data obtained in registries to better understand the benefit of new technologies for patients with particular diseases.***

3. Communication and Dissemination Research

Increasingly, medical decision-making has moved from a physician-driven model, wherein medical professionals were tasked with delivering a complete patient care plan, toward a "shared decision model." However, the increasing complexity of cancer care, and radiation therapy specifically, precludes patients from readily understanding the risks and benefits of treatment. For example, explaining the therapeutic balance between toxicity and tumor control to a patient for whom radiation is an appropriate treatment option is difficult. In scenarios where radiotherapy provides an equivalent oncologic outcome to competing interventions (e.g., surgery, chemotherapy), relatively complex toxicity data must be carefully explained in an unbiased and understandable way to the patient. Furthermore, specific patient cohorts (e.g. socioeconomically disadvantaged patients, ethnic minorities, elderly patients) may have identifiable barriers to understanding the potential benefits of radiotherapy. Finally, as the shared decision making process now often occurs in the context of a multidisciplinary medical model, we believe that referring physicians and oncologic colleagues may also present opportunities to improve decision making processes through greater education regarding radiotherapy indication(s), survival, local control, quality of life, or economic profiles.

Extant literature reveals a substantial knowledge gap in the optimal method for shared decision making in radiotherapy, with few rigorously constructed protocols. Nonetheless, the importance of improved communication strategies is readily apparent. The ROI needs assessment identified this area as a high priority. ***Therefore, ASTRO recommends a project focused on identifying and developing communication strategies to help patients' and others understanding of radiation therapy.***

4. Addressing Disparities

We agree that better understanding about why disparities persist is critical to implementing the policies and approaches necessary to support high quality health outcomes for all patients. We believe that the creation of a robust registry of radiation oncology patients that has the ability to link to other cancer registries and databases is integral to understanding the key questions outlined under the disparity priority area. ***ASTRO strongly supports research in this area.***

5. Accelerating Patient Centered and Methodological Research

PCORI's support of methodological research to determine the characteristics for longitudinal data to be considered valid in registries would be very beneficial. In particular, ASTRO believes

work in the area of the use of registries and clinical data networks to support research about patient centered outcomes could have a positive impact across a wide range of clinical areas. To date, a ROI registry in radiation oncology, in partnership with ASTRO, is focused on a pilot on prostate cancer. This work was started with the creation of a comprehensive taxonomy and data dictionary for the collection of physician, patient, tumor, treatment and outcomes data for patients with intact prostate cancer treated with various forms of radiotherapy. We have also committed to the design and structure of our registry and hope to establish user-friendly linkages to other national registries (existing and new) for data comparison with non-radiation therapy treatments.

ASTRO recommends PCORI work to increase knowledge in the area of development of clinical registries. We believe that PCORI's support for methodological research will yield practical tools and best practices so that as our registry grows and the prostate pilot expands to encompass care provided to a larger patient population, we will be able to leverage this knowledge to help us ensure the efficient use of our research resources.

We appreciate the opportunity to comment on the first version of the PCORI research agenda and look forward to offering our input into the PCORI research program in the future.

Sincerely,

Laura Thevenot

Laura Thevenot
Chief Executive Officer