“Every patient with cancer deserves to receive the best possible management to achieve cure, long-term tumor control or palliation.”

- Requires a commitment to quality throughout the entire treatment process.
- Requires organizational structure, defined responsibilities, procedures, processes and resources for assuring the quality of patient management.


Establishing Quality Standards

- Need to set quality standards – accepted criteria against which quality can be assessed
- Typically, these quality standards are established from:
  1. Consensus recommendations
  2. Learning from past errors

Challenges

- Numerous guidance documents
  - >100 AAPM TG reports and numerous NCRP, ICRP, and IAEA publications
  - Some very LENGTHY documents
  - Provides a thorough list of recommendations, but overwhelming and can be prohibitively time consuming.


Challenges

- Complexity of treatments
- Variation in clinical practice
- Level of automation
  - Technology has increased our capabilities, but has also created new kinds of failure modes.
- Clinical pressures – staffing, resources, and time to allot to develop in-house QA programs


Challenges

- Need timely guidance reports
- Guidelines are living documents
  - Must be regularly reviewed and updated
WHAT CAN WE DO?

MPPG Initiative

- Medical Physics Practice Guidelines (MPPG)
  - Intended to provide the medical community with a clear description of the minimum level of medical physics support that the AAPM would consider to be prudent in all clinical practice settings.
  - Staffing, equipment, machine access, and training.
  - Not designed to replace extensive Task Group reports or review articles, but rather to describe the recommended minimum level of medical physics support for specific clinical services.

Why consider MPPGs?

- There is a trend toward developing minimum practice standards
- Trend is accelerating – the time is now
- AAPM needs to own the medical physics related practice guidelines, and have the other entities reference our recommendations
In 2000, the Institute of Medicine published its first book in a series on healthcare quality, titled “To err is human.”

Concluded that ~98,000 patients die each year as a result of medical errors.

Two key recommendations:
1. Standardize procedures
2. Regularly validate professional competence.

Increased media focus

Increased media focus
Federal legislation

- CARE bill: Current House and Senate versions are identical – progress being made toward passage in this session.
- Charges the Secretary of the U.S. Dept of Health and Human Services (HHS) to implement regulations to enforce a minimum standard for clinical professionals in imaging and radiotherapy
- The draft regulations follow the AAPM definition of QMP

CARE bill

111th CONGRESS

S. 3737
To amend the Public Health Service Act and title XVIII of the Social Security Act to make the provision of technical services for medical imaging examinations and radiation therapy treatments safer, more accurate, and less costly.

111th CONGRESS

H. R. 3652
To amend the Public Health Service Act and title XVIII of the Social Security Act to make the provision of technical services for medical imaging examinations and radiation therapy treatments safer, more accurate, and less costly.

CARE bill

SEC. 316. QUALITY OF MEDICAL IMAGING AND RADIATION THERAPY.

(a) ESTABLISHMENT OF STANDARDS—

(1) IN GENERAL.—The Secretary, in consultation with recognized experts in the technical provision of medical imaging and radiation therapy services, shall establish standards to ensure the safety and accuracy of medical imaging studies and radiation therapy treatments. Such standards shall pertain to the personnel who perform, plan, evaluate, or verify patient dose for medical imaging studies and radiation therapy procedures and not to the equipment used.
CARE bill

“(3) REGULATIONS FOR DELIVERY OF OR PAYMENT FOR SERVICES.—Not later than 36 months after the date of enactment of this section, the Secretary shall promulgate the regulations described in subsection (b). The Secretary may withhold the provision of Federal assistance as provided for in subsection (b) beginning on the date that is 48 months after the date of enactment of this section.

The CARE bill will:

- Recognize state licensure standards that meet or exceed the federal standard.
- Require HHS to examine each state’s existing program to ensure it meets the federal standard.
- Direct HHS to ensure that no later than 3 years after the date of enactment of the legislation, all programs under HHS jurisdiction adhere to the standards including payment for medical imaging or radiation therapy procedures.

MIPPA

- Medicare Improvements for Patients and Providers Act of 2008:
  - Signed into law in July 2008
  - Requires practice accreditation for the “advanced imaging” modalities which includes CT, MR, and Nuclear Medicine
  - Does not include x-ray, fluoroscopy, sonography, or anything in radiation oncology
  - Does not apply to hospitals
Accrediting bodies under MIPPA:

- American College of Radiology
- Intersocietal Accreditation Commission
- The Joint Commission
- The Problem/Concern
  - All have different requirements for personnel - AAPM is on record indicating concern with not requiring board certification for medical physicists

Possible national solution:

- US Congress follows MIPPA’s lead and requires accreditation for all imaging and radiation therapy services in order to receive federal dollars (Medicare).
- ASTRO, ACR and AAPM have committed to strengthening accreditation programs

ASTRO-AAPM:
Patient safety

Special Article

Improving patient safety in radiation oncology
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Abstract: Beginning in the 1990s, and emphasized in 2000 with the release of an Institute of Medicine report, health care providers and institutions have dedicated internal resources to reducing errors that impact the safety and well-being of patients. However, in January 2008, the first U.S. Senate Select Committee on Improving the Quality of Health Care in the United States recommended the implementation of evidence-based strategies to improve patient safety, to protect the patient, and to improve the quality of care delivered to the patient. In response, the American Association of Physicists in Medicine and the American Society for Radiation Oncology sponsored a meeting entitled “Patient Safety in Radiation Therapy: A Call to Action.” The meeting attracted 45 attendees, including medical physicists, radiation oncologists, medical dosimetrists, radiation therapists, licensed administrators, regulators, and representatives of equipment manufacturers. The meeting was co-sponsored by 13 organizations in the United States and Canada. The meeting was inspired by the recommendations that provided a platform to discuss issues and
Path forward?

- Minimum standards for practicing clinical medical physics will likely have the force of regulation in most states within a decade.
- Major components:
  - Minimum education & training requirements
  - Board certification
  - Peer review at regular intervals
  - Continuing professional development (MOC)
- Error prevention programs will gain more prominence.

Medical Physics Practice Standards

Need: Consistent Practice Standards

- Medical Physics Practice Standards would ensure a consistent minimum standard across the US for quality assurance and patient safety – there could be mandated.
- Such standards should be concise and should specify the minimum level of QA for specific technologies and clinical applications.
- The development of these standards should be led by the AAPM in collaboration with other professional societies.

Medical Physics Practice Guidelines

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE

PROFESSIONAL POLICY:
PROCESS FOR CREATION, APPROVAL, AND REVISION OF MEDICAL PHYSICS PRACTICE GUIDELINES

INTRODUCTION

The American Association of Physicists in Medicine (AAPM) has long advocated a consistent level of medical physics practice and has published many guidelines and position statements toward that goal, such as the Education Council Task Group reports related to calibrations and quality assurance. Education Council and Professional Council Task Group reports related to education, training, and peer review, and Board-approved Position Statements related to the scope of practice, medical physics practice, and continuing education for medical physicists. Despite these concerted and ongoing efforts, the profession does not have a consistent level of practice or a common standard for the development of professional guidelines. As accreditation of clinical practice becomes more common, the AAPM will lead the development of MPPs in collaboration with other professional societies. The MPPs will be freely available to the general public. According to recommendations, any other societies and legislation will be encouraged to reference these expectations.
How do we respond?

- If we (AAPM) do not define our profession, others will do it for us.
- Current efforts:
  - Licensure / registration with strong template
  - ASTRO/ACR/IAC/TJC – strong accreditation
  - Develop Medical Physics Practice Guidelines
  - Work with CRCPD (SSRs) & FDA (devices)
  - Congress:
    - CARE bill for Training & Education standards
    - Tie Medicare funding to accreditation

Medical Physics Practice Guidelines: WHAT

- Define the minimum level of medical physics support for a given scope of clinical services
- Support includes staffing, equipment, time, authority, oversight /peer review, safety program, and minimum QC standards

Medical Physics Practice Guidelines: What it is NOT

- A competing set of “Science Council TG reports”
- “Me too ACR Technical Standards”
Medical Physics Practice Guidelines: What it is NOT

Some TG reports are too all encompassing. Authors trying to cover all bases but very difficult for clinical physicist to distill the most important take home points.

Shall vs. should?

A number of TG members, although experts in the field, are typically not performing the tests.

How is this accomplished?

The AAPM formally approved the Subcommittee on Practice Standards in November 2007

Specific Charges (related to MPPGs):

- Evaluate all draft TG reports to determine whether a Clinical Implementation Guide would be appropriate and of benefit to AAPM members.
- For TG reports in need of a Clinical Implementation Guide, generate and publish the Guide through a collaborative effort with the originating TG.
- AAPM Board of Directors approved initiative to develop MPPGs during Vancouver AAPM meeting.

SPG Membership

- 18 members + 3 consultants
- Chair (Maria Chan), one vice chair of imaging guidelines (Jeff Shepard) and one vice chair of therapy guidelines (Joann Prisciandaro)
- Makeup of SPG:
  - Diagnostic, nuclear medicine, and therapy physicists
  - Representatives from Therapy Physics Committee (Art Olch), Imaging Physics Committee of Science Council (Jeff Shepard), and the Government and Regulatory Affairs Committee of Administrative Council (Jerry White).
Goal

- Identify areas/topics in need of MPPGs
- Prioritize topics
- Form MPPG task groups
- Oversee timely development of MPPG TG report - goal is to develop draft within 6 months of forming TG and report within 12 months
- Set a 5 year sunset date for reports

MPPG Topics

- Initial topics will be identified and prioritized by SPG, and will need approval by Clinical Practice Committee (CPC) and Professional Council (PC).
- In the future, nomination forms will be available to AAPM medical physics community at large.

Current State

- SPG completed a 2 day workshop last weekend
  - Defined the framework for MPPGs
  - Identified the inaugural topics
    - IMAGING: Scan protocol management and review for CT.
    - THERAPY: Linac-based imaging systems – guidance for implementation and clinical use of MV and kV based radiologic imaging systems.
Future

- MPPG TG proposals have been sent to CPC and PC for approval.
- Once approved, announcement of MPPG TG topics and solicitation for TG members will be made through AAPM yellow book.
  - Goal:
    - Seek individuals with significant and current clinical experience for the topic.
    - Identify individuals that can commit to the aggressive timeline for development of the Guidelines.
    - Begin developing first set of MPPG TG reports.