AAPM 2012 and Beyond: Major Initiatives

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AAPM’s “Big Rocks”
Recurring themes

- Standards, standardization, standard operating procedures
- Collaboration, cooperation
- Adaptation, evolution
- Issues being addressed
- Issues not yet being addressed
Expanding the shorthand: what does “AAPM” do?

• “AAPM” does very little – individual physicists “do” things
• AAPM is an organizational tool for cooperative work

• Through AAPM we help each other learn and adapt – so that patient care is safe, effective, and efficient
High degree of engagement

- 68 task group reports since 1999
- 70 active task groups
- 234 committees/workgroups/task groups
- 14.5% of AAPM members are part of some national group – does not count chapter involvement
Major Issues

- Adequate supply of qualified physicists
- Proper utilization of qualified physicists
- Practice standards and accreditation
- Sharing best practices
- Emphasis on safety
- Operation of AAPM Board of Directors
Adequate supply of qualified physicists

- Clinical physicists
- Scientists/innovators
- Educators
- Leaders/managers
Evolution of clinical practice qualifications

Qualified medical physicist = Board certification

Board certification will require accredited education and residency

Clinical practice will eventually require board certification (CARE, regs)

Reimbursement will/may require practice accreditation (MIPPA, etc.)
Qualification for clinical practice

Graduate Training and Career Pathways in Medical Physics

- PhD (MS) in CAMPEP Medical Physics
  - Post Doc MedPhys
  - CAMPEP medical physics residency

- PhD (MS) in non-CAMPEP Medical Physics or PhD (MS) in other Physics [or equivalent with at least minor in Phys]
  - Post Doc MedPhys
  - Post Grad CAMPEP courses*
  - CAMPEP medical physics residency

- CAMPEP combined Programs for MS/Residency [PMDM] or ProfDoc/Residency [DMP]

- Board Exams

- Research/teaching career in academia or industry
  - QMP & clinical medical physics career

* Post Grad CAMPEP courses would be approved or taken in either a CAMPEP Grad Program or CAMPEP Residency that have such post grad course CAMPEP approval.
Where do we stand on residencies?

• Summer 2011:
  • Bruce Gerbi – 59 in therapy, 7 in imaging; 71 slots in therapy, 8-9 in imaging (update: 80 now, likely 100 by 2014)
  • Ed Jackson -- ~240 graduates (170 MS, 70 PhD), but 2:1 preference for PhD in residencies

• Issues
  • Lack of residencies, especially in imaging and for MS graduates
AAPM’s role …

- Provide guidelines for graduate programs and residencies (Reports 90, 133, 197 …)
- **Promote residencies**
  - Provided funds to aid development of an imaging residency in a consulting group – documents are available
  - Working with RSNA and SCARD to promote imaging residencies
  - Possibly: provide seed funding for imaging residencies
- Provide workforce needs estimates
AAPM’s role … education

• Provide opportunities for CE, SAMS
  • ~12 SAMS at Spring Clinical Meeting
• Work with CAMPEP and ABR to clarify and simplify processes where possible
• Provide MOC support
• For medical residents: online physics modules
  • First group completed with RSNA
RSNA/AAPM Online Physics Modules

The RSNA/AAPM Online Physics Modules are designed to educate radiologists and radiology residents about important concepts in physics as described by the AAPM Physics Curriculum. These modules are self-guided and include self-testing features to create a comprehensive experience for the viewer.

Each module has been developed by a team of individuals including at least one physicist and one radiologist, and has been peer reviewed for content and quality.

These modules will provide a basic understanding of the following topics: general imaging, radiography, mammography, fluoroscopy, interventional radiology, CT, and imaging processing.

Additional modules will become available in 2010.

The RSNA/AAPM Online Physics Modules are available to RSNA members and AAPM members as part of the benefits of membership.

Click here to access the Modules
AAPM’s role … communication

• Strategic plan element: create a section of the AAPM website for members to share information
  • CT protocols
  • SRS cone factors
  • Failure mode analyses
  • Safety checklists
AAPM’s role … science and innovation

- Concern that requirement for residency will discourage new researchers
- AAPM does not directly support much research
  - Does offer $50K in seed funding through Science Council (Dan Low chairs)
- Focused Research Meetings (FOREMs)
- Grantsmanship workshops
AAPM’s role … leadership/management skills

• Professional Council and Education Council are developing a plan to provide professional training in:
  • Management
    • Project management
    • Financial models and budgets
    • Employee management
  • Leadership
    • Fostering organizational growth and change
Proper utilization of qualified physicists

• Issues
  • What levers do we have to influence the use of “QMPs”? 
  • What tasks should be performed by QMPs? What degree of supervision is needed for other tasks?
Levers

- Regulation/Legislation
  - Licensure
    - An expensive effort that is ramping down
    - Only MA currently in play
Levers (2)

- Regulation/Legislation
  - Regulation
    - CRCPD suggested regulations (Doug Pffeifer)
    - Annual training of state inspectors at CRCPD meetings
    - CRCPD database of board certified physicists
Levers (3)

• Regulation/Legislation
  • CARE bill
    • Re-introduced in 2011 by Rep. Ed Whitfield (R-KY) and John Barrow (D-GA); valid through 2012
    • *Consistency, Accuracy, Responsibility, and Excellence in Medical Imaging and Radiation Therapy Act*
  • CA CT regulation
Levers (4)

• Practice accreditation (MQSA, MIPPA …)
  • AAPM is working with accrediting bodies to require involvement of QMPs in imaging – varied success
  • CMS approved accrediting bodies: ACR, Intersocietal Accreditation Commission (IAC), Joint Commission
Imaging accreditation

• AAPM has liaisons to
  - ACR
    - Beth Schueler, Nick Detorie
  - IAC: ICACTL (CT), ICANL (NM, PET)
    - Stephen Balter, Stephanie Franz, Bob Pizzutiello, Chun Ruan
  - Joint Commission
    - Ralph Lieto
Levers (5)

• Professional staffing guidelines
  • “Blue Book” revision (ASTRO)
    • Dan Pavord, Chris Serago, Mike Mills
  • ASTRO white papers on safety (Fraass)
    • IMRT (Moran), SRS/SBRT (Solberg), IGRT (Jaffray) all stress staffing needs
Practice Standards and Accreditation

• Develop **Medical Physics Practice Guidelines** that can be referenced by accrediting bodies (imaging and therapy)
• Under Professional Council (Per Halvorsen); Maria Chan chairs the effort
• First two:
  
  CT Protocol Management and Review
  Evaluation and QA of X-ray based image guided radiotherapy systems
Emphasis on Safety

- Shift in “QA” from “product testing” (TG-40, TG-142) to “process control”
  - Standardized procedures
  - Checklists
  - Time-outs
  - Process improvement (internal event reporting)
  - Failure mode analysis
Emphasis on Safety – National Event Reporting

- Consensus that we do this badly and need this badly
- Nascent efforts jointly with ASTRO and others
- Working Group on the Prevention of Errors has completed a report on a taxonomy to be used for event reporting
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<td>Workgroup Chair</td>
<td>10/5/2005-12/31/2011</td>
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<td>Huq, M. Saiful</td>
<td>Chair - Chair, Task Group No. 100 (ex officio)</td>
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Event reporting: Wish list

- Independent of government and vendors
- Capture all events, not just machine- or product-related, including near misses
- Actively triaged with communication to reporters to get complete information
- Confidential, anonymous, legally protected
- Widely adopted
Event reporting: Wish list

- Appropriate data structures
  - Scoring system for severity
  - Classification scheme for errors, causes, contributing factors
- Mechanism for investigation where warranted
  - Independent of regulators, vendors
  - Able to communicate with vendors
- Mechanism(s) for distributing results
Recurring themes

- Standards
- Certified physicists in accredited practices
- Standard procedures, checklists
Recurring themes

• Collaboration, cooperation
• Working more with ASTRO, RSNA, ACR, CRCPD ….
• White papers, staffing recommendations, event reporting….
• African proverb: “If you want to go fast, go alone. If you want to go far, go with others.”
Recurring themes

• Adaptation, evolution
  • Training models (hub/spoke residencies; DMP)
• Replace silos with networks
  • Event reporting
• Peer – peer sharing
The biggest rock …

• We have an unsustainable health care system
• Financial pressure is going to drive innovation and efficiency
  • Do what matters
  • Stop doing what doesn’t
• Caution: avoid prescriptive regulation that will inhibit adaptation
Bringing it back home ....

- How can we respond individually and locally to these developing emphases?
  - Patient safety
  - Practice standards
  - Efficient operations

Safe, Effective, Efficient
Internally …

- Standardize and document procedures
- Employ checklists and “Time Outs”
- Record and respond to errors and near misses
- Measure your effectiveness, learn what matters
- Commit to the practice becoming accredited
Externally …

- Get together and share best practices
- Get together and share errors and near misses

AAPM is how we help each other … locally and nationally

“Be the change …”
Role of the AAPM Board

• The Board should
  – Set strategic direction
  – Prioritize allocation of resources
  – Assess progress on major initiatives
  – Assure financial stability
  – Be proactive, not reactive
Board operations have improved

- Monthly electronic packets
- Online discussion and voting
- Less time listening to reports
- Three meetings annually – spring meeting to be mostly strategic
- Mission/Vision recently approved, strategic planning in progress
But it is not what it could be …

- Board agenda is primarily set by the officers and council chairs
- Board reacts to proposals
- No formalized process for assessing ongoing initiatives
Would a smaller board help?

- Dynamics of a group of 40+ people is not conducive to discussion
- Many people have thought so:
  - 60-70% in surveys
  - Multiple ad hoc committees
  - Two membership votes came close to achieving 2/3 majority
Competing functional goals …

- Strategic thinking and agenda setting
  - Best done by a small group with special skills
- Broad representation and communication to the membership
  - Best done by a large group with close connection to members
Problem ...

How to best incorporate strategic planning into the existing large board?
Recent Strategic Planning

• 2010 – 2011, ad hoc committee worked with the Board to create a strategic plan
• Tied to mission and goals
• Goals > Objectives > Strategies > Deliverables
• Guides budget priorities
• Formally approved summer of 2011
Strategic Planning Committee of the Board

• A standing committee of the Board to:
  – Oversee implementation of the SP
  – Report/recommend to the Board
  – Review, revise, revisit the plan as needed
Strategic Planning Committee of the Board

Membership
2 Board members from each year

Officers

Meets in Spring with Council Chairs to review progress, assess changes
The hope …

This subset of the Board will work with the officers and council chairs to recommend priorities and initiatives for the full Board, representing the membership, to consider…

Thus taking AAPM through 2012, and beyond.