Appraisal of Physics Education of Medical Physicists

Physics Education Summit
21 Jan  2006
Eric E. Klein, M.S.
Washington University, St. Louis  MO
Physics Education for Physicists

- Graduate Education
- Physics Residency Programs
- Organizations and Roles
- Problems and Obstacles to Improving Training
- Evaluation of Training
- Continuing Education
Graduate Education

- Medical Physics Graduate Programs
- Other Graduated Disciplines
- Post Doctoral Programs
Medical Physics Graduate Programs

- CAMPEP Accredited
- Non-CAMPEP
Other Graduated Disciplines

- BioMed Eng (incl MedPhys)
- Radiological Physics
- Others
Post Doctoral Programs

- With Clinical Component
- Pure Research
- Related Field (BioInformatics, Nucl. Engineer, etc.)
Physics Residency Programs

- CAMPEP Accredited
- Non-CAMPEP
- Alternative Pathway
Alternative Pathway

• Combined with Research
• As Part of Outreach Clinic
Evaluation of Training

- ABR Certification
- Success of Graduate
ABR Certification

• Written
  - General
  - Specific for Discipline

• Oral
  - Pass Rate of CAMPEP Resident
  - "Bar Lowering"
Success of Graduate

- First Job Expectations
- Database for CAMPEP Resident
Continuing Education

- Courses
  - Journals, Texts, Web
  - Colleague Interaction
  - New Technologies, Procedures
Courses

- National meetings
  - Needs Survey
  - Evaluations
- On-Line
- For Profit vs. Legit
Journals, Texts, Web

• Journal Variety: JACMP - PMB
• RDCE Program
Colleague Interaction

• Vital for Solo Physicist
• Large Institution Niches
• Peer Review of Knowledge
New Technologies, Procedures

- Vendor Supplied
- For Profit Training
- Evaluation: Certificate of Added Qualifications
Organizations and Roles

- CAMPEP
- CMS (HCFA)
- ASTRO
- RSNA
- AAPM
CAMPEP

- Graduate Program Reviews
- Residency Program
- CME
- Alternative Pathway?
CMS (HCFA)

- Supports Residencies, but not as GME
- Medical Physics as a Specialty
ASTRO

• Previously Supported AAPM's Residency Grant
• Now supports Startup Residencies
RSNA

- Supports Imaging Residency
AAPM

- Supports CAMPEP
- Education & Research Fund
- Virtual Library
- On-Line Continuing Education
- Summer Undergraduate Fellowship Program
- Graduate Fellowships
- Education Council
- Development
Education Council

• Continuing Professional Development
• Education and Training of Medical Physicists
Education and Training of Medical Physicists

• Ad Hoc Committee on Alternative Paths to Medical Physics Residency Training
  - This committee will make recommendations to the AAPM BOD on whether the AAPM should officially support alternate mechanisms for training, if so what the requirements for such training should be.
  - Thus AAPM urgently requests that CAMPEP devise guidelines for an alternative, formally structured training mechanism to help assure that an adequate supply of competent clinical medical physicists will be available.
  - CAMPEP to develop guidelines which create a category of satellite training facilities which are affiliated with the principal accredited residency institutions.
  - AAPM form a Task Group to develop recommendations for alternative funding mechanisms for Residency Programs and to assist CAMPEP in devising guidelines for programs and approved mentors at Affiliated Satellite institutions.

• Minority Recruitment SC
• Summer Undergraduate Fellowship Program SC
• Medical Physicist Workforce SC
• Medical Physics Residency Training and Promotion SC
• TG1: Academic Program for an MS Degree in Medical Physics
• New Report 36 on Residency Programs
AAPM Report Number ??
(Revision of AAPM Report No. 36)

Recommendations for Hospital Based Medical Physics Residency Training Programs

A Report of the Sub-committee on Medical Physics Residency Education and Promotion
AAPM Committee on Education and Training of Medical Physicists

submitted March, 2005
AAPM Report No. 36

Table of Contents

Section I
  Introduction

Section II
  Essentials and Guidelines

Section III
  Stipends and Benefits

Section IV
  Appendices I - V
  I. Areas of Competence
  II. Education Requirements
  III. Radiation Physics Knowledge
  IV. Clinical Knowledge
  V. Radiation Biology
Development

• Awards Selection Subcommittee
Problems and Obstacles to Improving Training

Money

- Support of Physics Community
- Support of Medical Community

Perhaps too many overlapping and competitive entities (even within AAPM)
Money

- HCFA
- Societies
- Industry
- NIH?
Support of Physics Community

- AAPM, ACMP
- Members?
  - Uneducated
  - Paranoid of Competition
Support of Medical Community

- ASTRO, RSNA Support
- Administrators?