

Clinical Doctorate in Medical Physics (DMP) - Survey

As you may already be aware, the American Board of Radiology (ABR) has issued new requirements for eligibility to take Part I of the Radiologic Physics examination for board certification. Beginning in 2012, in order to sit for the board exam a candidate will have to be enrolled in or have graduated from a CAMPEP accredited M.S., Ph.D., or residency program. Furthermore, beginning in 2014, a candidate will need to be enrolled in or have completed a CAMPEP accredited residency. Note that for the 2014 deadline, there will no longer be the requirement of a CAMPEP accredited M.S. or Ph.D.

The 2012/2014 initiative originated with the American Board of Medical Specialties (ABMS) mandate that the ABR should require a clinical training program in medical physics as a requisite to sit for the board exam. The goal of the ABMS is to improve the quality of clinical services to patients. Board Certification has both regulatory and legal implications. As stated in the American Association of Physicists in Medicine (AAPM) Task Group 133 (TG133) report, this change has been further driven by a desire to improve the uniformity of training among medical physicists. Unfortunately, while the goal of quality, uniform training is worthwhile, the current number of residencies is insufficient to accommodate the 200 plus medical physics students. Currently, there are around 20 CAMPEP accredited residency programs, which can accommodate only an estimated total of 50 medical physics residents per year. Significant efforts are underway to increase the number of CAMPEP-accredited residencies, but at this point it is uncertain if the new residencies can accommodate all the training needs by 2014.

The AAPM TG133 has offered the following possibilities to meet the upcoming 2014 residency requirement:

1. A conventional academic CAMPEP accredited residency.
2. A structured mentorship, whereby training centers (possibly a community hospital) could affiliate themselves with CAMPEP accredited residency programs in order to provide additional training and faculty resources that may be absent from their center.
3. A professional doctorate degree in the practice of medical physics, perhaps called a doctor of medical physics (DMP). This could be provided through academic institutions, with students paying tuition for the professional degree. The context for this professional degree is similar to those in other fields, for instance a PharmD or PhysTherD.
4. An enhanced M.S. or Ph.D., whereby the graduate program could provide some or all of the additional clinical training. Documented clinical training acquired in the graduate program could be counted towards the completion of the residency requirement.

Some institutions are studying the feasibility of a clinical doctorate in medical physics (DMP), option three above. Although the requirements for such a degree have not been firmly established, general features being discussed are 2 years of didactic work, followed by 2 years of clinical residency. The DMP would offer clinical medical physics training but no extensive research training. Tuition and costs likely would be paid by the student. It is believed that successful DMP training would lead to eligibility for ABR exams. This survey, originally envisioned by graduate students at Duke University with additional input and refinement by many program directors, aims to poll the opinion and sentiments of the medical physics trainees and program directors regarding DMP. We will be most grateful if you would share with us your thoughts regarding the DMP initiative.

**Society of Directors of Academic Medical Physics Program (SDAMPP)
American Association of Physicists in Medicine (AAPM) Task Group 168
American Institute of Physics Statistical Research Center**

KEY:

Questions for Students or Residents

Questions for Program Directors or faculty

Questions for both groups

1. Are you attending a public or private institution?

- (a) public
- (b) private
- (c) I don't know

2. Is your program CAMPEP accredited?

- (a) yes
- (b) no
- (c) I don't know

3. What is your final degree goal at this institution?

- (a) MS/MA
- (b) PhD
- (c) Residency certificate
- (d) Other (specify) _____

For graduate students only, what is the title of the degree on your diploma?

- (a) Medical Physics
- (b) Physics
- (c) Health Physics
- (d) Biomedical Sciences
- (e) Nuclear Engineering
- (f) Biomedical Engineering
- (g) Biomedical Physics
- (h) Other (specify) _____

4. What is your primary area of interest in your graduate or residency program? (select ONE area)

- (a) Therapeutic medical physics
- (b) Diagnostic/imaging medical physics
- (c) Nuclear medicine physics
- (d) Medical health physics / radiation safety
- (e) Other (specify) _____

5. Number of years in the current graduate program or residency program?

- (a) first
- (b) second/third
- (c) fourth and beyond

6. What is your primary source of funding for your education?

- (a) self-financed (ie. savings; loans, family support)
- (b) Research assistant, project assistant, etc (support includes tuition remission)
- (c) Research assistant, project assistant, etc (support includes some tuition remission)
- (d) Research assistant, project assistant, etc (support does not include tuition remission)

- (e) Hospital or hospital/CMS funded residency position
- (f) Outside Scholarship/Fellowship (for graduate program), specify _____
- (g) Outside Scholarship/Fellowship (for residency), specify _____

7. What is your post-graduation career plan? (select the primary one)

- (a) clinical medical physics
- (b) academic research in medical physics
- (c) clinical/academic medical physics
- (d) industry
- (e) government
- (f) other (specify) _____

8. Do you intend to pursue American Board of Radiology (ABR) board certification?

- (a) yes
- (b) no
- (c) other boards (i.e. ABMP, ABHP, ABNM, CCPM), please specify _____

9. Is your program mainly affiliated with a public or a private institution?

- (a) public
- (b) private

10. Is your program CAMPEP accredited?

- (a) yes
- (b) no

11. How many students/residents do you currently have in your program? (choose all that apply)

- (a) Terminal MS/MA students _____
- (b) MS/MA students in route to PhD _____
- (c) PhD students _____
- (d) Residents _____
- (e) Post-doctoral research trainees _____
- (f) Other (specify) _____

For graduate programs only, what is the field of your offered degrees? (choose all that apply)

- (a) Medical Physics
- (b) Physics
- (c) Health Physics
- (d) Biomedical Sciences
- (e) Nuclear Engineering
- (f) Biomedical Engineering
- (g) Biomedical Physics
- (h) Other (specify) _____

12. Are you aware of the ABR's undergraduate physics course requirements for Board eligibility?

- (a) Yes
- (b) No

If yes, do you require completion of these courses as a part of your program?

- (a) Yes
- (b) No

13. In which of the following areas does the program provide training? (select all that apply)
- (a) Therapeutic medical physics
 - (b) Diagnostic/imaging medical physics
 - (c) Nuclear medicine physics
 - (d) Medical health physics / radiation safety
 - (e) Other (specify) _____
14. How many years has your program been awarding a degree or residency certificate?
- (a) 1-4
 - (b) 5-12
 - (c) 13 and beyond
15. What are your sources of funding for your program? (choose all that apply)
- (a) tuition and fees
 - (b) institutional support
 - (c) state or provincial government support
 - (d) industry grants
 - (e) external government grants
 - (f) external professional grants (eg, AAPM)
 - (g) hospital funded residency positions
 - (h) CMS reimbursement to CAMPEP accredited medical physics residency program
16. How informed are you of the 2014 ABR policy change concerning eligibility to sit for the board exams?
- (a) very informed
 - (b) generally informed
 - (c) generally uninformed
 - (d) not informed
17. Residency training will not be required to sit for the ABR board exam until 2014. However, if at the time of your application to graduate school both the residency requirement ****had**** been enacted and your degree choices had been MS, PhD, or a clinical doctorate in medical physics (DMP), how would this have changed your INITIAL degree path into the field?
- (a) no change
 - (b) would have applied to PhD instead of MS
 - (c) would have applied to DMP instead of MS
 - (d) would have applied to DMP instead of PhD
 - (e) would have applied to combination DMP PhD program
 - (f) would have applied to another field altogether
 - (g) unsure/undecided
18. For graduate students only, would you apply to a 4-year clinical medical physics doctorate (DMP) degree program?
- (a) yes, I would apply to a DMP program after my MS program
 - (b) no, I would not apply to a DMP program, but would apply to a PhD program instead
 - (c) no, I would finish my current degree and apply to a residency
 - (d) no, I would finish my current degree and apply to a post-doctoral program
 - (e) no, I would finish my current degree and directly pursue employment
 - (f) unsure/undecided

19. Tuition and fees to attend a DMP program would vary from one institution to another. For many state institutions the out-of-state tuition is more than \$20-25k, equaling or exceeding private institutions. Generally, tuition and fees would also have to be paid during the residency portion of the DMP training. What is the maximum TOTAL amount you would have been willing to spend (out of pocket) on tuition & fees to obtain a 4-year clinical doctorate in medical physics (DMP) degree?

- (a) \$150,000
- (b) \$120,000
- (c) \$100,000
- (d) \$80,000
- (e) \$60,000
- (f) < \$60,000
- (g) I'm not interested in the clinical doctorate in medical physics (DMP) degree

20. Rank the four options specified by TG 133 from most appealing (1) to least appealing (4) for the following scenarios:

- A. Your present situation as a student/resident in a program
- B. If you were a prospective student/resident for a program

A ___ B ___

A conventional academic CAMPEP accredited residency.

A ___ B ___

A structured mentorship, whereby a training center (possibly a community hospital) could affiliate themselves with a CAMPEP accredited residency program in order to provide additional training and faculty resources that may be absent from their center.

A ___ B ___

A professional doctorate degree in the practice of medical physics, perhaps called a doctor of medical physics (DMP). This could be provided through academic institutions, with students paying tuition for the professional degree. The context for this professional degree is similar to those in other fields, for instance a PharmD or PhysTherD.

A ___ B ___

An enhanced M.S. or Ph.D., whereby the graduate program could provide some or all of the additional clinical training. Documented clinical training acquired in the graduate program could be counted towards the completion of the residency requirement.

21. Please indicate how you think the establishment of clinical medical physics doctorate (DMP) programs will affect the medical physics profession. (circle the anticipated effect)

- | | | | |
|--|------------|---------|---------|
| (i) stature/credibility of profession | improve | neutral | degrade |
| (ii) clinical medical physics training | improve | neutral | degrade |
| (iii) salary/pay in the profession | improve | neutral | degrade |
| (iv) role of research in medical physics training | improve | neutral | degrade |
| (v) ability to attract students to enter the field | improve | neutral | degrade |
| (vi) stratification of disparate professional classes | accelerate | neutral | reduce |
| (vii) role of current MS medical physicists in the field | improve | neutral | degrade |
| (viii) role of current PhD medical physicists in the field | improve | neutral | degrade |
| (ix) overall effect, considering all factors | improve | neutral | degrade |
| (x) other (specify) _____ | improve | neutral | degrade |

22. Apart from DMP programs, what alternative solutions would you propose to address the number of residencies required to meet the 2014 mandate? What additional steps should be taken to assure adequate residency positions by 2014 such that all qualified students may enter residencies?

We welcome your comments, ideas and suggestions, regarding the 2014 ABR policy, residency training, DMP degree, funding solutions, and the anticipated effects of such policy decisions for individuals as well as for the profession.

Comments:
