Medical Physics Workforce Study: Overview

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The Center for Health Workforce Studies

- Based at the School of Public Health at SUNY Albany
- Not-for-profit academic research center
- Our mission is to provide timely, accurate data, and conduct policy-relevant research about the health workforce
- Our goal is to inform public policies, the health and education sectors and the public
Goal of the Study

- To determine whether the supply of medical physicists will be sufficient to meet future demand for their services
- To identify potential strategies to avert future shortages in the profession
What Are the Study Objectives?

- To compile or collect data needed to understand the roles, responsibilities, education, and career paths of medical physicists
- To learn from key stakeholders about barriers to and facilitators of expanding accredited residency programs/slots
- To develop projections of the supply of and demand for medical physicists (radiation oncology and diagnostic radiology)
- To understand the workforce implications of shortages of medical physicists
- To recommend potential strategies that AAPM and other stakeholders may want to consider to assure a sufficient supply of medical physicists to meet demand for them.
Study Components

- Literature Review/Preliminary Report
- Stakeholder and Key Informant Interviews
- Survey of Medical Physicists in the AAPM Membership
- Development of Supply and Demand Forecast Models for Medical Physicists in Two Disciplines: Radiation Oncology and Diagnostic Radiology
The Health Workforce: The Basic Premise

- A health care system is only as good as its workforce
- The workforce directly impacts on:
  - Quality
  - Cost
  - Access
Fluctuations in health workforce labor markets can lead to widespread workforce imbalances, referred to as shortages or surpluses.
Nursing Cycles of Overproduction and Shortage

Registered Nursing Graduations in the US, 1984-2008

Source: IPEDS

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Imbalances Can Take Many Forms…..

- Profession or specialty imbalances, (e.g., registered nurses, primary care physicians, general surgeons)
- Geographic imbalances, (e.g., differences in supply of health workers between rural and urban areas)
- Institutional and service imbalances, i.e., differences in the supply of health workers in different settings, (e.g., acute care compared to long-term care)
- Public and private imbalances, differences in the supply of health workers between publicly- and privately-sponsored providers
- Gender or racial/ethnic imbalances in a health profession
The Medical Physicist Training Pipeline Will Shortly Be Constricted

- There are many graduates from medical physics education programs (masters and doctoral)
- There is great competition for the relatively small number of medical physicist residency slots
- Like medicine, the production of new board eligible medical physicists will be limited by the number of residency slots
Context of Future Supply/Demand Gaps in Medical Physics

- Aging of the U.S. population
- Health reform
  - Expanded access to health insurance
  - Focus on primary and preventive care
  - Support for innovation
- Technological evolution and advances
- Concerns about health care quality, patient safety and medical errors
- Economic conditions
Response Options to an Emerging Shortage

- Postpone implementation of the new certification requirements
  - Produce more medical physicists
    - A rapid expansion of residency slots
    - Expand the # of DMP programs
- Extend work hours and/or clinical careers of currently practicing medical physicists
- Use current supply more efficiently
  - More delegation
  - Create new levels within the profession
Consequences of Failure to Respond

- If a serious shortage of medical physicists occurs in the future, it will affect access to and cost of health care services

- Others may respond:
  - Health care providers
  - Other professions
  - States

- Examples, endoscopy in the U.K. and dental therapists in Alaska
Next Steps

- Critical need to monitor the medical physicist workforce going forward
  - Pipeline: student and resident exit survey
  - Supply of medical physicists
  - Demand for medical physicists
- Engage in a long-term workforce planning effort
  - Update model parameters
  - Inform strategies that can assure an adequate supply of well-trained medical physicists for the future